THE PATHAGORAS™ SYSTEM

Linking to and Using External Datasources

Beyond the Instant Database

Document Assembly
Document Automation
Document Management

Table of Contents

1 Introduction

Pathagoras contains within its '4-corners' a very powerful, yet remarkably easy, way to collect and reuse data.

- By 'data,' we mean things like names, addresses, dates, quantities, colors, etc. Anything that is 'personal' to the client or customer and which you want to preserve for later use is 'data.'

Pathagoras' internal database is called "Instant Database." It is so named because the feature can quickly create a recallable database record from the variables in an assembled document. Instant Database is fully discussed in the main Help Manual at this link.

However, Pathagoras recognizes that many users already have 'data.' And you may wish that data to be made accessible to the typical user. In this publication, we provide several methods whereby you can link your source documents with your existing databases.

We also provide below guidance on how you can 'feed' data from your external database into one or more Pathagoras' Instant Database records.

But first, a caveat.

Despite its availability, 'external database linking' is a rarely used feature of Pathagoras. Part of it is due to the extra setup required in creating a link from one program to another. Even among those who we know to be sophisticated users both of Pathagoras and of external databases, the Instant Database is still by far the tool of choice for database functions.

"Why" you may ask, "would anyone choose to forgo the use of already existing data?" The main answer is that the data maintained by your external database likely is not the same data you need for the documents you are creating.

Take, for example, a Last Will & Testament. Your external database would no doubt contain the names and addresses of the Will's maker and perhaps his or her spouse, and perhaps (but progressively less likely) the names of the children and grandchildren. But rarely would the external database contain the names of every beneficiary, or the names and addresses of the Executor or Guardians. And the names and their roles as assigned in the database are not likely to match up with the variables used in the document.

When too many items needed to prepare the typical document are 'missing' from the external data source, or a field name in one doesn't match the field name in the other, use of that data simply becomes less attractive. (Avoiding the duplication of information is a noble goal. However, in practice, Pathagoras users, who are using the the program for its simplicity, have uniformly found that the 'type one' goal is not a sufficient reason to justify the extra effort of preparing and maintaining documents linked to external data for the fields it can provide. It simply is easier to retype a name or two into the Pathagoras' Instant Database and move on.

Now, when the data stored in the external database is substantial, useful and well named, and the remaining data that needed to complete the document is insignificant by comparison, then it makes sense to use the external database as a primary information source. (The 'missing' data can still be collected using the Instant Database module. See our 'best of both worlds' discussion below.) If this is your situation, read on.

1.1   Having one's cake and eating it too.

If you decide to implement links to your external data source(s), you will have a 'reward' for doing so. The reward is in the nature of "Having your cake and eating it, too." Or, to call on another overused cliché, "You can have the best of both worlds." That is because Instant Database is still there to fill in the gaps.

Link to your external database to take advantage of the extensive information stored there. Create the merge fields for the data stored in the data source. For the rest of the information needed, just create standard, plain text [bracketed variables]. At document assembly time, use Pathagoras' External Database tools to link to and replace the data fields. Use Instant Database to identify, complete and store the additional data.

2   Definitions

Data Source: A 'data source' is any file, document, spreadsheet, database or other electronic 'container' that holds data in an organized fashion. 'Data' can be anything, but most commonly comprise names, addresses, sizes, titles, dates, colors, genders, etc.

A 'database' is a common type of data source. Access®, Act®, Alpha5®, Paradox® are but a few of the dozens of off-the-shelf databases that are available. Even when they are not marketed as a 'database', there are many other programs out there that are essentially databases. For example, Abacus®, Amicus Attorney® and Time Matters® (practice management programs) and BestCase® (a bankruptcy preparation program) are all database programs at heart. Billing programs such as TimeSlips®, PCLaw® and The Tussman Program® are databases at their core. There are a variety of other more mundane (and free) sources for storing and obtaining data.

External Data Source: 'External' simply refers to the fact that the data being discussed is not a part of Pathagoras' *Instant Database* module. The Instant Database module is considered as the 'primary' tool to store and retrieve data in Pathagoras. All other sources are 'external.'

Comma Separated Value (CSV): A CSV file is a common method for data interchange among disparate programs. A '.CSV' file is as universal to sharing of information among databases as '.PDF' is for sharing of documents.

Pathagoras uses CSV files to store its Instant Database records. (More accurately, Pathagoras uses a 'quote-comma' scheme to separate fields. Individual fields are enclosed in double-quotes and separated by commas.) Almost all programs can process data in CSV files, and that fact is exploited in implementing many of Pathagoras' database features. (Even though CSV files typically end with the extension '.csv', they can also bear the extension '.txt', '.dat' and possibly others. It's the content that is important, not the extension.

Direct Connection: A link (typically a 'field' between Word and the external data source) that pulls information directly from the external data source file.

Merge Field: A code embedded in a Word document that contains information that allows the document to link to an external data source. They are used to 'merge' the external data with the document being assembled. Merge fields typically display in a Word document with a grey background. They cannot be directly edited by the end user.

As a rule, Pathagoras avoids using embedded fields. They are more difficult to create and edit and conceptually are more difficult for the end user to understand. Pathagoras greatly favors (and emphasizes) the use of 'plain text' variables. That said, Pathagoras works quite well with merge fields. For the user who has a solid working knowledge of how to create and use merge fields, they can greatly enhance document production.

Indirect connection: A process by which information is pulled from a secondary database derived from the original data source, but which is not the actual data source. For example, data from Act (an external data source) is exported into a CSV file. Pathagoras will operate against that CSV file.

To preserve its 'plain text' structure, Pathagoras makes significant use of indirect connections to data.

3   Four Approaches to DataBase Connectivity

There are three distinct approaches available to Pathagoras which provide access to external data. Each is discussed more fully in separate sections of this publication, but are summarized here:

A. Use the external data source to create an *Instant Database* record.

Perhaps your client/customer/patient filled out an on-line form. Perhaps your staff input the personal information for a new client/customer/patient into your billing or contact management system. You want to use as much of this information as you can. Most external databases can create a comma separated value file that is fully compatible (indeed identical) to the data used by Pathagoras 'Instant Database' system.

The style of an IDB record is as follows:

"[variable1]","[variable2]","[variable3]","[variabl41]","[variable5]", ...
"value of variable 1","value of variable 2","value of variable 3","value of variable 4","value of variable 5", ...

    etc., up to 60 variables.

So if you create a record using the tools of your proprietary database to output a record that mimics the above, you have an Instant Database record. Store it in the same location as your other IDB records and Pathagoras can process it as if you had created it from scratch.

B. Link to external source via MultiChoice *Lists* [14]

Let's say you want quick access to a long list of 'stuff'. For example, you want to present to the end-user a list of every model of widget your company sells, along with their prices; or a list of the clerks of the various courts in which you practice; a list of local physicians, etc. You anticipate replacing a variable in your document with one of the items from the list.

Pathagoras provides an easy way to insert a [*list*] variable in your document. Although plain text, this 'starred variable' will link to list all of the values contained in an external database. This is a really cool tool.

C. Link a Mask to data source. [11]

Similar to A. above in that you ask your external database to create a CSV file, but instead of the CSV file containing a single record, this CSV file contains all of your records. During your Instant Database session, you point to the CSV file. Pathagoras reads all of the records and allows you to select the one you want. The data is poured into a previously prepared 'mask', and you are ready to roll.

C. A direct link to a data source. [16]

Let's say that you just don't want to use Pathagoras' *Instant Database*. as your primary database tool. Your existing external database has all or most of the data you need to personalize your documents. You want to be able to pull that data into your assembled documents using merge fields. Not a problem. We can do that too.

➡**Note:** Pathagoras can directly link to any data source that Word can directly link to. By the same token, if Word cannot directly link to a particular data source,

then neither can Pathagoras. In this latter situations, "indirect" link opportunities are available. For example, the external database can almost certainly export a 'single-record' file that can be used by Instant Database *a la* <u>A.</u> above. But perhaps even more to the need, you can like create a new (and perhaps more compact) database from the original. This is called a 'Derivative Database.' Derivative Databases are more fully discussed at <u>this link</u> 32.

3.1   Add IDB Record via External Database

You can add an individual Instant Database matter record to your current collection. This is not actually a Pathagoras function. But the result is a fully functioning Pathagoras element. You simply ask your external database program to create a new CSV file and save that file in the same folder as other Instant Database records. Once saved, that file is immediately and fully part of the Pathagoras records collection.

Example: Let's assume that your external database contains fields called "CustomerName", "CustomerAddress", "ProductOrdered" and "Quantity". Let's further assume that and the record you wish to export contains "ABC Trucking Company", "123 Main Street", "Valves" and "400" in the respective named fields.

To implement this technique, you would direct your external program to export the single record "ABC Trucking Company" and save it into the folder that currently contains your Instant Database records. (The typical IDB folder is "C:\Program Files\Paathagoras\IDBS\"). Let's assume you saved it in that folder as "ABC Trucking.csv".

When done, the exported file should look like this (remember, it is only two lines long):

```
"CustomerName", "CustomerAddress","ProductOrdered","Quantity"¶
"ABC Trucking Company","123 Main Street","Valves","400"
```

The CSV file comprise 2 (and only 2) lines of text:

- The first line contain all of the field names of the database. Of course, to be useful, the names must be identical to the names of the variables in your document.

- The second line contains the values assigned to the particular field for the particular exported record.

Because Pathagoras always checks for new records in the IDB folder, if this record is properly saved as described above, it will automatically appear in the Matter Data drop down list (upper right corner of the Instant Database screen).

So, the next time you display the Instant Database screen and select the 'ABC Trucking' record, the screen will look like this:

This is identical in appearance to how the screen would have appeared if you had scanned the document and provided replacement text.

➡Note the brackets in left column of the IDB screen. They were not in the external database. However, Pathagoras added them automatically. If the external database fields do not contain brackets, Pathagoras adds them just before displaying them onto the IDB screen.

Click here to read more about this feature in the main Help Manual.

3.2   Using Masks

Link to .csv file using an Instant Database Mask

This is an excellent alternative to **I.** above. With this method, you need to 'things.'

1. An Instant Database Mask with variable names paralleling those in the documents you wish to create; and

2. An external database.

The link to the external data is indirect and does not involve inserting fields or complicated links like that. Indeed, the variables within your document remain plain text. You will use the tools provided by your external database to export data into a comma separated value ('.csv") file which Pathagoras can easily read and process.

For it to work, however, the order of fields of exported data must be in the same order as the variables of the mask. This should be easy to accomplish. Most programs allow you to select a collection of fields, and to set up export rules that lead to the creation of the desired.csv file. You should even be able to save your selections as an 'export template' so that it is easy to regenerate the .csv (or .txt or .dat, etc.) file whenever you want.

.csv file: This may be a new term, but it is not a complicated concept. ".csv" means '**c**omma **s**eparated **v**alue' and refers to the way the data in your primary database is exported to a file. It is sometimes called "comma delimited." It means that the values contained in the is stored in individual rows, one per record, with the breaks between each field of data in each row indicated by a comma. Here is what a comma separated file might look like:

Jane, Doe, 1234 Main Street, Jacksonville, FL, 32211, red
Harry, Johnson, 914 Oak Tree Lane, Ft. Collins, CO, 78765, white
Roy, Lasris, 117 Chisman Landing, Seaford, VA, 23696, blue
. . .

Typically the file extension of a .csv file is '.csv' (hence its common name) but some programs export to to '.txt' files and others to '.dat' files. So long as the data is truly 'comma delimited,' you are good to go.

To import the external data into an Instant Database Mask, recall the prepared Mask from the drop down list in the upper right of an Instant Database screen. Then, 'import' data from the comma separated value (.csv or .txt) file. The steps are outlined in the following paragraphs. But first, a few preliminary notes:

- Pathagoras can provide instant access to up to two .csv files.

- Pathagoras can provide you quick access (but navigation is required) to an unlimited number of .csv files.

- A little setup is required for the instant access part. They are, however, one-time setups and will not be repeated.

Setup steps:

To create the input form 'mask' that contains the variables for the typical document you want to create, see Create Mask in this Manual. It will provide all the information you need for the creating, care and feeding of masks. (If you already have an established mask that you want to use, you are practically ready to roll.)

Create a comma separated value file from you external database. Here are the rules:

- The fields you export from your external database must be in the same order as the variables in your mask. But since the start point of the expected import need not be at the top of the mask, it just needs to be in the same order as one section of the mask.

  Typically the section of the mask into which you will be importing data will be the 'whole' mask, but it need not be. Maybe it will pair up with the first 10 variables of the mask, in which case the you will create a csv file which contains 10 fields. Maybe you want to allow the user to complete the first 10 fields of the mask, and you want to be able to import data from field 11 to the end. Pathagoras can do either. Just keep in mind that the data must pair up with the desired section of the mask and the only way to accomplish that is to keep the data in the same order as the variables in the mask you wish to pair up with.

- You may have to spend a little bit of time getting the data fields properly set up, but once you do, your database program should let you save it for repeat uses. (As you add more clients and customers, you will want to regenerate the file so the records are available to Pathagoras. Saving the 'export template' or whatever your database program calls it will be critically important.)

- The csv file can contain an unlimited number of records -- lines -- from one to a million.

- The extension of the exported file can be anything (.csv, .txt, .dat, etc.) but the file must be a true comma delimited value file.

Third, in Pathagoras, create a pointer to the export file. This is done on via the Instant Database tab of the All Settings and Options toolbox (1). Toward the bottom of that window, click the External Database Content tab (2).
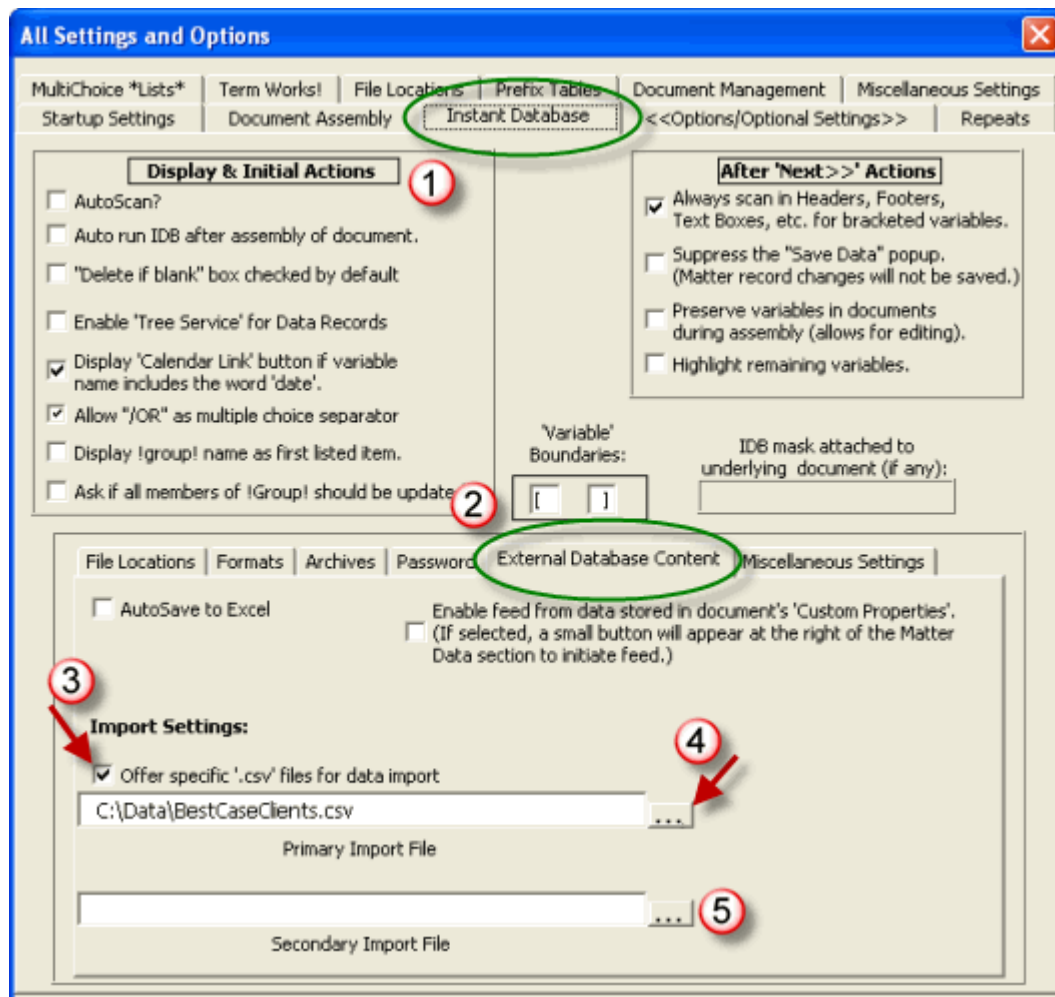
(1)Select the Instant Database tab in the All Settings screen.
(2) Select the External Database tab in the sub-window.
(3) Check the 'Offer .csv files for import' box and
(4) navigate to the file.
Your selection will be saved in the text box to the left of the selector button.
If you wish to add a second data import link, use the lower section (5).

End user steps:

After the setup steps are complete, assemble a document. Of course, for purposes of this topic, the document should contains variables that are reflected in the Mask we want to use.

Display the Instant Database screen and select the mask from the Mask list (upper left corner of the IDB form).

Complete the data that you know is not going to be imported (or do this second). When you are ready to import data from the external file, click Power Tools and then click the 'Import' button in the Power Tools section. From the resulting screen, select the nature of the file from which you wish to import data. In this case, select the last entry, "From prepared .csv file.' this screen will appear, with the data from the first field of the primary import file already displayed.
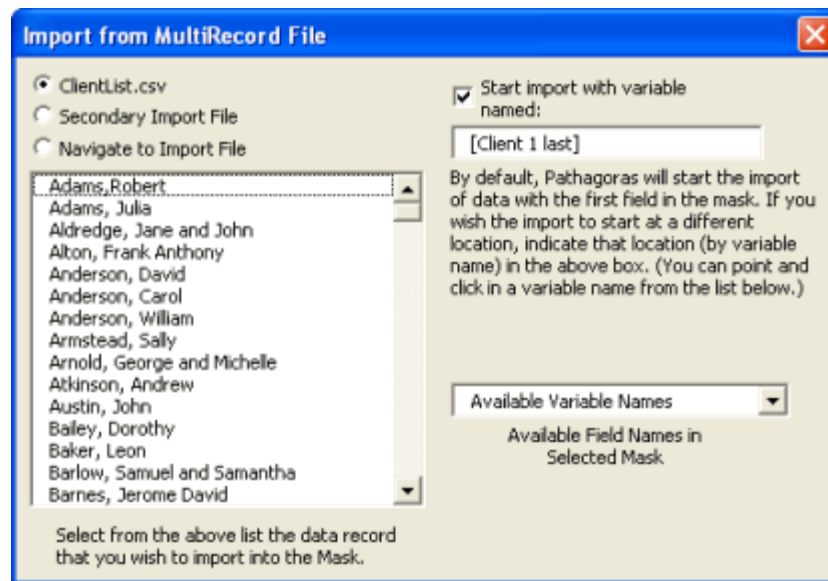
Notes:

- While the primary import file always displays by default, you have instant access to the secondary import file (if set).

- You can navigate to any other data containing file, even if not registered.

- You can use the controls at the right to designate the mask variable you wish to start import into. (Just as a reminder: You can reserve the first X number of fields in your mask for keyboard input, and take advantage of the external data to fill in the rest, or as much of 'the rest' as exists in your import file. Just select from the controls at the right the first variable in the mask you wish to begin receiving the imported data.)

3.3   Using Excel

Excel, using the Pathagoras for Excel module, offers a variety of alternative to adding database records. They are all discussed and illustrated in the separate manual titled "Pathagoras for Excel."

3.4   Link via MultiChoice *Lists*

MultiChoice *Lists* (also called 'starred variables' because of the stars --asterisks-- which identify this special kind of variable) offer a flexible and easily managed way to connect a plain text variable to the field values of an external database.

Let's assume that you have a database that contains a list of 100 products . . . or company names and addresses . . . or attorneys . . . or medications. . . etc. The content of the list doesn't matter..

Let's further assume that you are using Pathagoras' classic Instant Database system for completing documents. You want to be able to present to the end user a drop down list of possible values (as they exist in the external database) for a particular variable. (This is akin to inserting a 'multiple choice variable' [27] into your document. However, unlike multiple choice variables which typically contain only a few choices, the content of a starred variable can be

hundreds of elements, yet take up only as much space in the actual document as the variable name.)

Example:

```
[Patient Name] visited the office on [Date of Visit].
For the symptoms presented, we prescribed [*medicine*].
```

When the Instant Database screen is opened, and document scanned, the fields [Patient Name] and [Date of Visit] would be displayed and manually completed in the 'normal' fashion. However, the starred variable [*medicine*] would be presented on the Instant Database screen as a drop down list which contains the names of the medicines as contained in the external data source.

The actual steps you need to linked a starred variable to its data source are detailed in the Pathagoras Help Manual. Click this link to the Manual for step by step instructions on how to implement this very powerful tool.

4   Merge Field Connections

The above two database options still primary use Pathagoras' *Instant Database* feature.

This option is the 'direct link' method. It uses 'real' Word 'merge fields'.

Below we discuss two ways of making these link. The first is using Word's 'Merge Fields.' The second also uses 'Merge Fields', but adds a twist that allows you to access up to 5 separate databases and one bridge template for each database.

4.1   Merge Fields

If you are already adept at creating merge fields and at linking them to the appropriate data source, this is the section you want to read.

Pathagoras can assemble any text that contains any valid Word 'link'. The 'link' can be a hyperlink to a webpage, a link to a footnote, a link to another document and, more appropo here, a link to a database source and record. Any source document or clause that currently contains a merge field can readily be used for any aspect of Pathagoras document assembly system.

If your document already contains links to a database, you are all set. If it does not, you can create the links in the way in which you are already familiar. Place the links at any appropriate location in any source document.
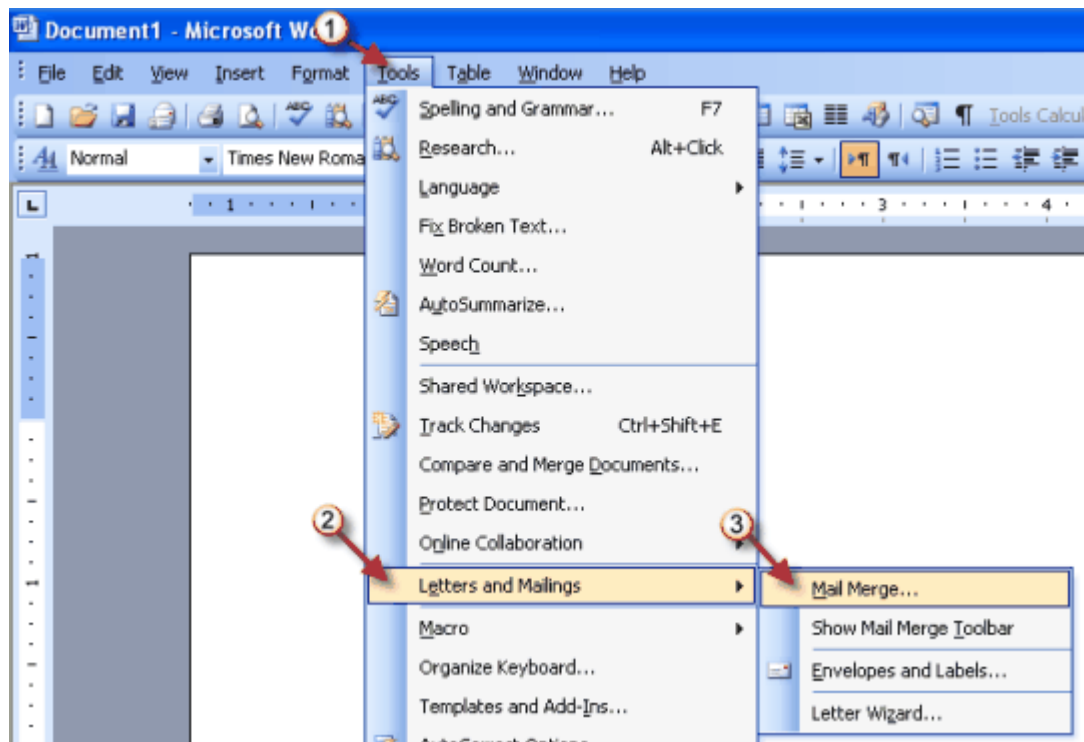
If you do not know how to create Merge Fields, follow the instruction on the next pages. (One page from pre-2007 Word versions, the other for 2007+ version.
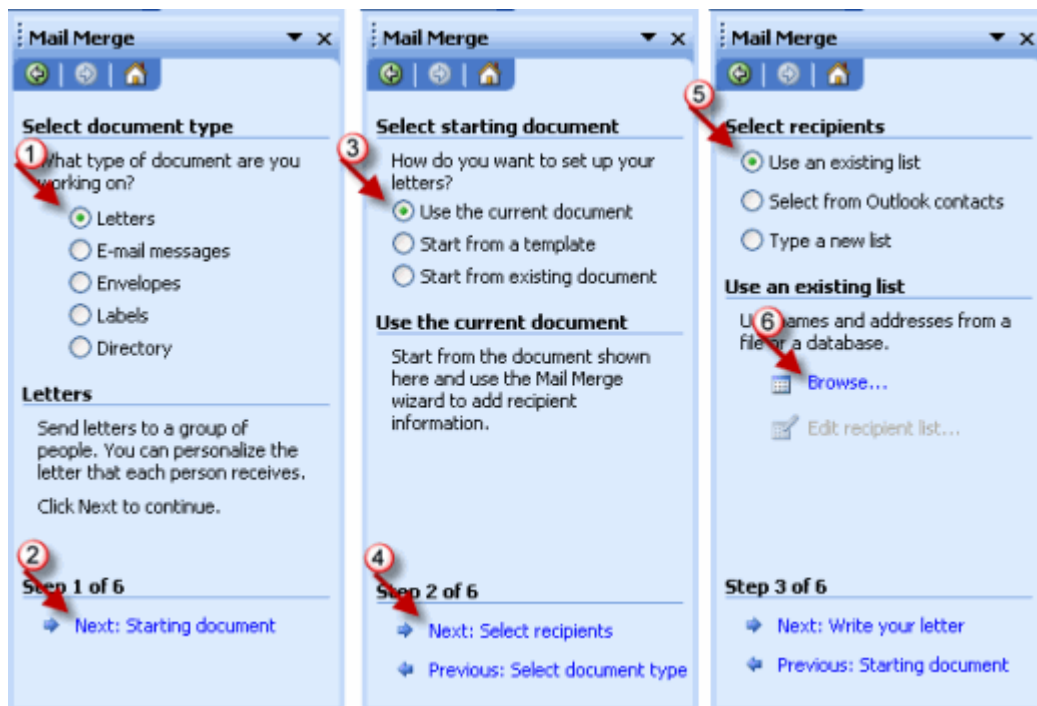
4.1.1   Merge Fields, Word 2003 and prior

Here are the steps:

1. Open a blank document. (Ultimately this document will be saved as a template, and can contain template features such as headers, footers, margins settings, style definitions, etc. But for now, let's just use a blank document.)
2. Click "Tools|Letters and Mailings|Mail Merge" from Word Toolbar.

3. A "Mail Merge" panel at the right side of the screen will appear. Select Letters from the choices and then click the "Next: Starting Document" element. (Letters is the default, so you likely won't have to click it.

This image reflects the 3 separate Mail Merge panels that will appear after you select the Mail Merge function and as you perform clicks 2 and 4 as shown in the image.
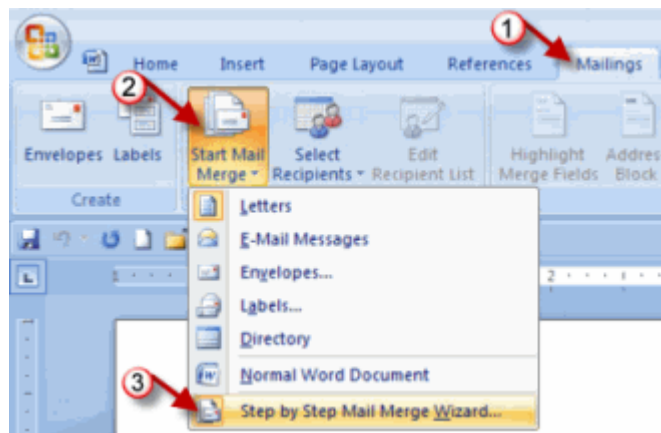
4. Select the Use the current document (the default selection) and then click "Next: Select recipients" (See middle panel above.)

5. Select Use an existing list and then click "Browse."

6. From the screen that next appears, navigate to and select the data source you wish to assign to this document. Note: Some data sources can automatically be linked. Others need to be registered before they are usable. Pathagoras assumes that all data sources have been properly registered.

7. Once the data source has been selected, you are done. While 3 more steps appear to be required (see the bottom of the third panel which reads "Step 3 of 6"), you need do no more. The connection is made.
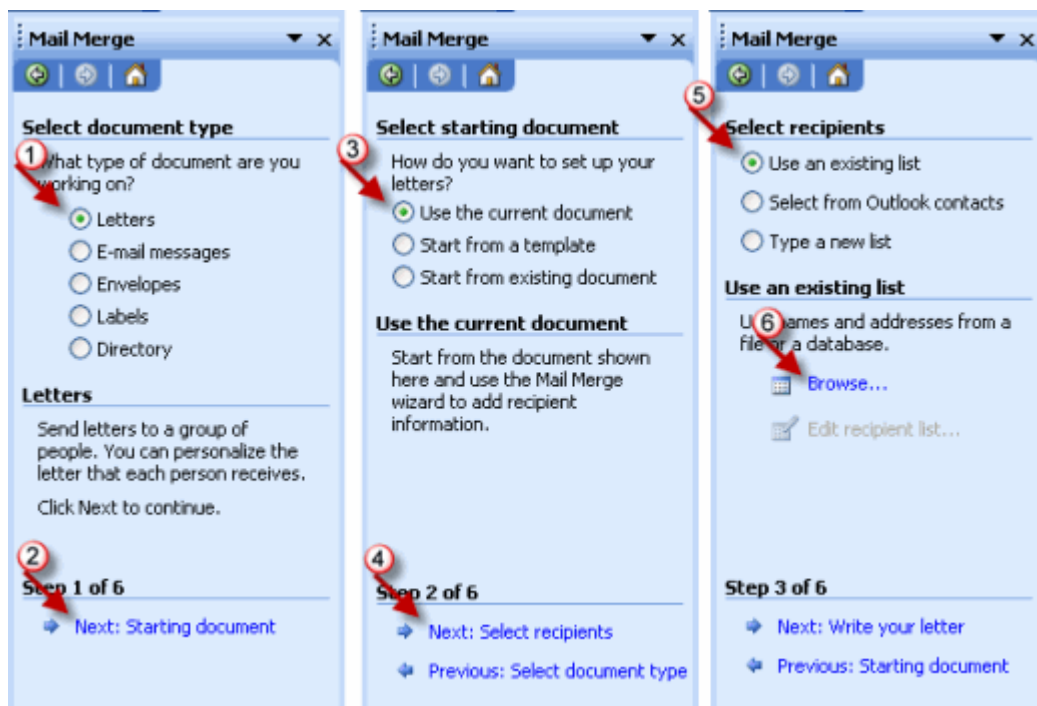
4.1.2   Merge Fields, Word 2007 and later

In creating the bridge template, Pathagoras takes advantage of the automation features provided by Word's Mail Merge tools. To make the template, we simply 'pretend' to be creating a Mail Merge, and perform just the first 3 steps provided in the Mail Merge Wizard. (At the end of this page is an alternative -- and for some, easier -- approach to the same end.)

Here are the steps:

1. Open a blank document. (Ultimately this document will be saved as a template, and can contain template features such as headers, footers, margins settings, style definitions, etc. But for now, let's just use a blank document.)

2. Click the "Mailings" tab. The click the Mail Merge button and then click "Step by Step Mail Merge Wizard."

3. A "Mail Merge" panel at the right side of the screen will appear. Select Letters from the choices and then click the "Next: Starting Document" element. (Letters is the default, so you likely won't have to click it.

**This image reflects the 3 separate Mail Merge panels that will appear
after you select the Mail Merge function and
as you perform clicks 2 and 4 as shown in the image.**

4. Select the Use the current document (the default selection) and then click "Next: Select recipients" (See middle panel above.)

5. Select Use an existing list and then click "Browse."

6. From the screen that next appears, navigate to and select the data source you wish to assign to this document. Note: Some data sources can automatically be linked. Others need to be registered before they are usable. Pathagoras assumes that all data sources have been properly registered.

7. Once the data source has been selected, you are done. While 3 more steps appear to be required (see the bottom of the third panel which reads "Step 3 of 6"), you need do no more. The connection is made.

4.2   Method 2

If you are not quite so adept as this 'databasing' and 'merge field' stuff, read on.

We handle most linking to databasing by a bit of 'cheating.' We cheat by creating a document (called a 'bridge') that contains all of the information needed to establish a link between a document that you have created for use with Pathagoras and the external data when you are ready to 'personalize' the document. The bridge is simply a blank '.dot' or '.dotx' file. The sole purpose of this file is to serve as the portal into the external database. We call on the bridge document anytime we need to link to the database. (That's the 'cheating' part. Except for the first time we directly connect to the database as we create the bridge, we don't actually directly connect to the database again. We use the data of the bridge to do that for us.)

The information contained in the bridge document is not anything that you have to type or generate. Pathagoras will do that for you. Pathagoras simply uses that bridge document to make all future connections to the data source.

You then need to create or modify your source text so that it contains appropriate merge fields at appropriate locations. These merge fields are the place holders that, when the final document is 'bridged' to the data source, will contain the actual data from the data source. ('Source text' is the base language which you use to assemble document in the future.)

When it is time to assemble a document for a client or customer, you follow standard 'Pathagorean' document assembly techniques (i.e, select a document from a DropDown List, or assemble a document from a display of available clauses via the Clause Selection screen.) After the document is assembled, you would then connect it to the data source using the 'bridge.'

If any plain text [variables] resided in the source documents (to capture data not present in the external source), process them using Instant Database. (See 'best of both worlds' discussion at this link⌐ 5 ⌐.)

The process for creating the bridge template is slightly different for Word 2000-2003 and Word 2007. Each process is set out separately below.
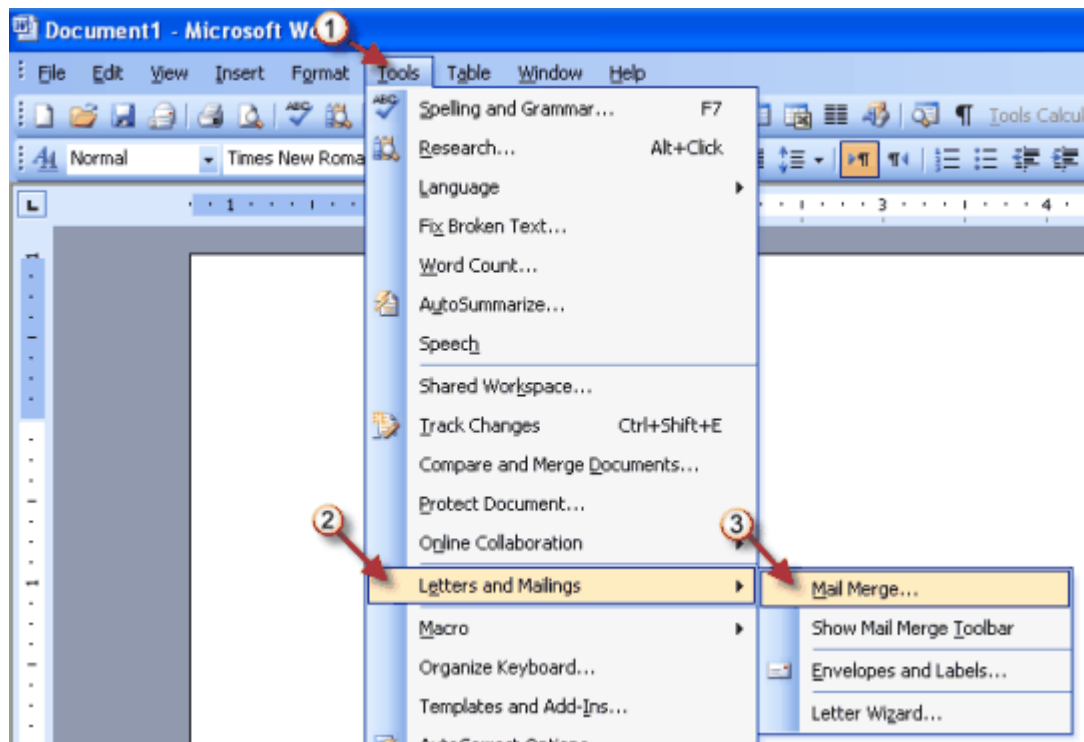
4.3   Create Bridge Template

4.3.1   Word 2000-2003

In creating the bridge template, Pathagoras takes advantage of the automation features provided by Word's Mail Merge tools. To make the template, we simply 'pretend' to be creating a Mail Merge, and perform just the first 3 steps provided in the Mail Merge Wizard. (At the end of this page is an alternative -- and for some, easier -- approach to the same end.)

Here are the steps:

1. Open a blank document. (Ultimately this document will be saved as a template, and can contain template features such as headers, footers, margins settings, style definitions, etc. But for now, let's just use a blank document.)
2. Click "Tools|Letters and Mailings|Mail Merge" from Word Toolbar.

3. A "Mail Merge" panel at the right side of the screen will appear. Select Letters from the choices and then click the "Next: Starting Document" element. (Letters is the default, so you likely won't have to click it.

**This image reflects the 3 separate Mail Merge panels that will appear
after you select the Mail Merge function and
as you perform clicks 2 and 4 as shown in the image.**

4. Select the Use the current document (the default selection) and then click "Next: Select recipients" (See middle panel above.)

5. Select Use an existing list and then click "Browse."

6. From the screen that next appears, navigate to and select the data source you wish to assign to this document. Note: Some data sources can automatically be linked. Others need to be registered before they are usable. Pathagoras assumes that all data sources have been properly registered.

7. Once the data source has been selected, you are done. While 3 more steps appear to be required (see the bottom of the third panel which reads "Step 3 of 6"), you need do no more. The connection is made.

8. Save this document AS A TEMPLATE to any folder of your choosing. If you click the Save (or SaveAs) button and select the File Type as Template, Word will automatically switch the save to folder to your default Templates folder. That is a perfectly fine location, but any other location is acceptable as well. Just put it where you can later find it.

9. Now we want to register this template, and the information it contains, into the Database Settings screen. Keep the template you just created on the screen for now.
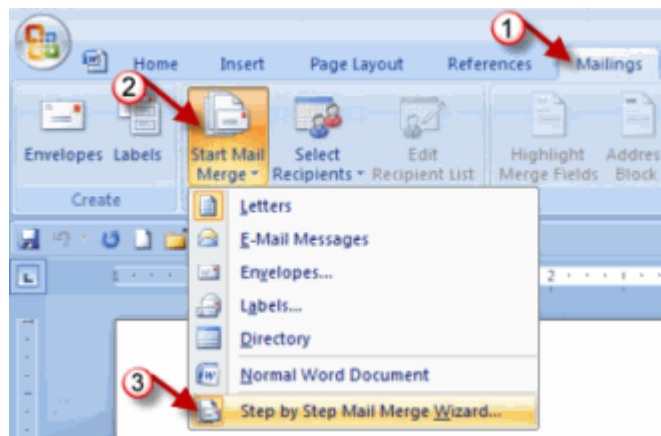
NOTE: If you have an existing document that you know is already linked to the desired database or other data source, you can skip most of this step and continue with the next.

4.3.2 Word 2007

In creating the bridge template, Pathagoras takes advantage of the automation features provided by Word's Mail Merge tools. To make the template, we simply 'pretend' to be creating a Mail Merge, and perform just the first 3 steps provided in the Mail Merge Wizard. (At the end of this page is an alternative -- and for some, easier -- approach to the same end.)

Here are the steps:

1. Open a blank document. (Ultimately this document will be saved as a template, and can contain template features such as headers, footers, margins settings, style definitions, etc. But for now, let's just use a blank document.)

2. Click the "Mailings" tab. The click the Mail Merge button and then click "Step by Step Mail Merge Wizard."

3. A "Mail Merge" panel at the right side of the screen will appear. Select Letters from the choices and then click the "Next: Starting Document" element. (Letters is the default, so you likely won't have to click it.

This image reflects the 3 separate Mail Merge panels that will appear after you select the Mail Merge function and as you perform clicks 2 and 4 as shown in the image.

4. Select the Use the current document (the default selection) and then click "Next: Select recipients" (See middle panel above.)

5. Select Use an existing list and then click "Browse."

6. From the screen that next appears, navigate to and select the data source you wish to assign to this document. Note: Some data sources can automatically be linked. Others need to be registered before they are usable. Pathagoras assumes that all data sources have been properly registered.

7. Once the data source has been selected, you are done. While 3 more steps appear to be required (see the bottom of the third panel which reads "Step 3 of 6"), you need do no more. The connection is made.

8. Save this document AS A TEMPLATE to any folder of your choosing. If you click the Save (or SaveAs) button and select the File Type as Template, Word will automatically switch the save to folder to your default Templates folder. That is a perfectly fine location, but any other location is acceptable as well. Just put it where you can later find it.

9. Now we want to register this template, and the information it contains, into the Database Settings screen. Keep the template you just created on the screen for now, and proceed to Register the Template.

NOTE: If you have an existing document that you know is already linked to the desired database or other data source, you can skip most of this step and continue with 'Register the Template.'

4.3.3 Alternative Approach

Alternative Approach:

The above discussion took advantage of the Wizards that Word provides. A more direct approach exists, of which you will want to take advantage once you are familiar with the basic processes.

Word 2000-2003:

If the Mail Merge toolbar is not already showing, right click in the 'grey' area of the toolbar section of the Word screen. This will display a list of all available toolbars. Click "Mail Merge".)

Press the buttons in the order shown below and follow the instructions next to the corresponding entry:

1. Click button 1 and select "Normal Word Document" from the menu that displays.

2. Click button 2 and then navigate to and select the data source you wish to assign to this document. Note: Some data sources can automatically be linked. Others need to be registered before they are usable. Pathagoras assumes that all data sources have been properly registered.

3. Optional: If you wish to peruse the database and see what is inside, click this button. This way you can be assured that you selected the right database and that the link was made.

4. Once the data source has been selected (step 2), you are done. Ignore the remaining buttons for now. Remember, we are creating a bridge template, not a complete document.

5. Save this document AS A TEMPLATE to any folder of your choosing. If you click the Save (or SaveAs) button and select the File Type as Template, Word will automatically

switch the save to folder to your default Templates folder. That is a perfectly fine location, but any other location is acceptable as well. Just put it where you can later find it.

Now we want to register this template, and the information it contains, into the Database Settings screen. Keep the template you just created on the screen for now.

Word 2007:

If the Mail Merge toolbar is not currently 'front and center,' click the Mailing tab. Press the buttons in the order shown below and follow the instructions next to the corresponding entry:

1. Click button 1 and then button 2. Navigate to and select the data source you wish to assign to this document. Note: Some data sources can automatically be linked. Others need to be registered before they are usable. Pathagoras assumes that all data sources have been properly registered.

2. Once the data source has been selected, you are done. Save this document AS A TEMPLATE to any folder of your choosing. If you click the Save (or SaveAs) button and select the File Type as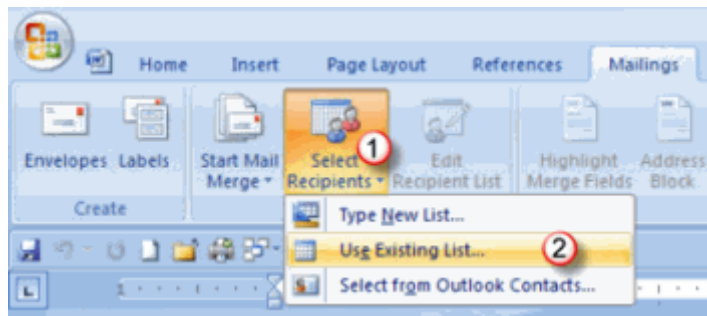 Template, Word will automatically switch the save to folder to your default Templates folder. That is a perfectly fine location, but any other location is acceptable as well. Just put it where you can later find it.

Now we want to register this template, and the information it contains, into the Database Settings screen. Keep the template you just created on the screen for now, and proceed to 'Register the Template.'

4.3.4 Register the Template: The Database Settings Screen

The Database Settings screen is the 'control point' for creating most links to your data. There are shortcuts available after the settings have been saved to this screen.

The process of completing the Database Settings screen is easy and most is automatic. Keep (or recall) the bridge template you just created in the previous section on-screen.

Activate the Database Settings screen from the Pathagoras drop down features menu. Select the Database entry and the Database Settings entry from the submenu.
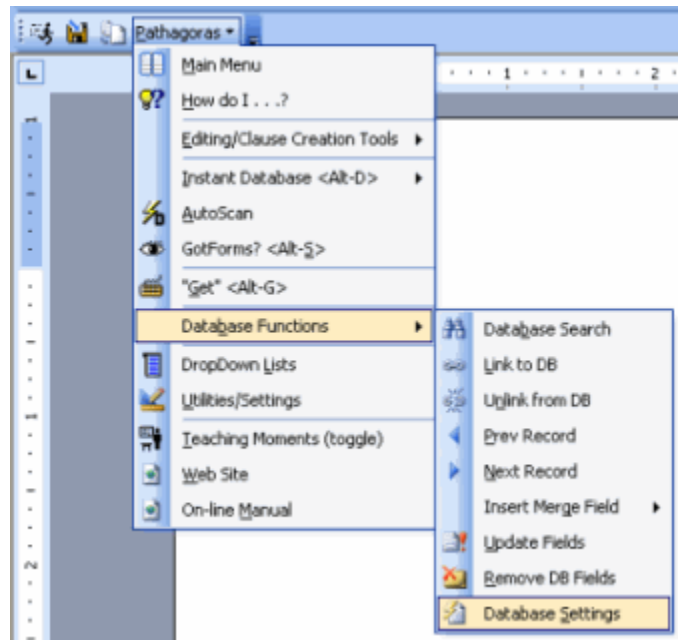
This is what you should see.
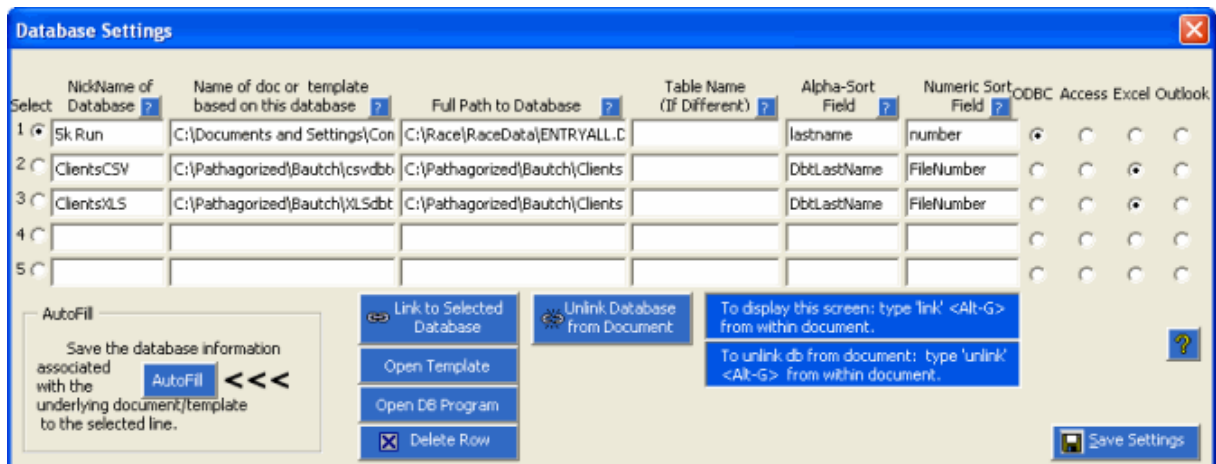
Select one of the numbered option circles at the left. Your selection of rows is not critical, but it should be a blank one if you are registering a new data source, or a 'filled' row if you are replacing a registration.

Click the <AutoFill> button. Provide the information as it is requested.

- The bridge template is examined for the appropriate link information, to fill the second and third text boxes.

- You must provide the nickname, which can be anything you want. It should be short, but still adequately describe the database. It appears in other database selection screens.

- The <AutoFill> button will not appear if the underlying document is not linked to a database. You may nevertheless manually register any database by hand typing the appropriate information into the various boxes.

- Click the Save Settings button when you are done.

Study the other available buttons on the screen to get a sense of what can be accomplished in other situations using this screen.

4.3.5   Number of Data Sources

Pathagoras lets you create links to up to 5 data sources.

So depending upon the type or nature of the document you are creating, you will have access to the data from up to five separate data sources.

The connections cannot be simultaneously. That is a physical impossibility. Multiple data sources cannot be mixed within a single document. But if you are creating, let's say a real estate contract and want to link to the data in your Real Estate Closings program, and immediately afterwards you need to create a Will and therefore want to link to the data in your Estate Planning program, you can do so quickly and elegantly. (And the Hot Links discussed in the previous section allow you to do it mouselessly.)

And never forget that, sitting in the background, is the Instant Database module. Plain text variables can always be placed throughout any document. Once the external data source has been tapped, run the Instant Database to complete the document.

4.4   Create Your Source Document(s)

Of course, we shudder as we succumb to the need for you to insert any kind of field in a document. If you have read the other materials discussing the program, you know that Pathagoras prides itself on being a 'plain text,' no fields required, document assembly program. Here we must vary from that mantra.

As elsewhere in Pathagoras, we have endeavored to made the process of field making as simple and as intuitive as possible. Once you get the hang of it and have done it a few times, the process will become almost second nature.

Display Document

Display an existing document to which you wish to add database merge fields onto your editing screen. Alternatively, just display a new, blank document.

Link to data source.

This is the 'magic' of the system that Pathagoras provides.

a. Click the Pathagoras drop down features menu.

b. Click Database and Click the Database Setting element to display the Database Settings screen

c. Select the Database you want to use and click the Connect to Database button.

d. The document is now linked to the database, and you can start inserting merge fields at strategic locations.

Inserting merge fields.

a. Place the cursor insertion point where you wish to insert a field.

b. Click the Insert Fields button. All available fields in the database are displayed in a drop down list.

c. Select the fields and click the OK button. (Alternatively, double clicking an entry will typically insert a field into the document.

d. Continue adding fields as desired.

e. You can tell that you have added a field because you will see either text surrounded by «double chevrons» and (typically) with a grey background OR the actual information (name, address, etc.) from the first record of the database. Which of these displays is a function of the status of the "View Merged Data" (Word 2000-2003) or Preview Results (Word 2007) button in the Mail Merge tool bar. The button is a toggle. Click it to show the 'other' view.
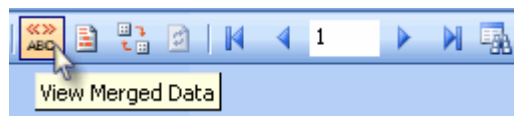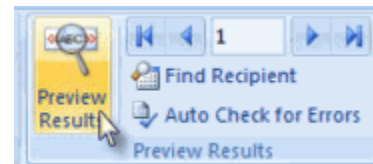
Word 2000-2003   **Word 2007**

f. When you have finished adding fields, we recommend that you disconnect the database. Do so by clicking the Unlink button in the Database sub-menus. Why? To convince you that you don't need it. To convince you that fields are just 'things' in the document that can be moved, copied, pasted, deleted in the same way that you move, copy, paste and delete other elements of Word documents. See "Keep this in mind" below.

Edit and Save

Edit the document so that things are lined up correctly. This is simply a matter of adding extra characters and spaces where they belong. For example, in an address block, you brought in fields that represented the «City»«State»«Zip» and they probably are all mushed up against each other. Add a comma and a space after «City» (just a plain text comma) and two spaces between «State» and «Zip». The line should look like this: «City», «State» «Zip»

Save the document in an appropriate forms folder. Ideally you should save it in a folder that you have also assigned as a book or as a DropDown List. That way you can quickly access it in a typical document assembly session. See the Main Manual for how you can save on-screen text directly into a book or a DropDown List.

Notes: Just like with 'regular' document assembly (if you assemble from individual paragraphs and clauses), most of your source text is 'boilerplate' in nature and will contain no fields. You will need to add database merge codes only into those pages that display personal data.

Subsequent documents: There are any number of shortcuts you can take in putting together new (or editing existing) source document. Any field, or any collection of fields (e.g., a group of fields that make up an address block; a group of fields that represents signature lines, etc.) that you have created in one source document can be easily copied and pasted into another

source document. So, once you have created, let's say, an address block for your first letter, copy that section into the clipboard. Then, open up another letter (or create a new one) and paste that address block into that letter.

Repeat as appropriate.

This can be done any number of times, even in separate Word session, without ever having to reconnect to a data source or clicking in individual fields. Once you have a model to follow, use it. You can quite efficiently in constructing subsequent documents that (ultimately) link to databases without ever being connected to the database.

4.5   Assemble Document

The following assumes that you have a complete source document, or a series of source documents that you can assemble into a complete document. It also assumes that you have placed the appropriate 'merge fields' into the source documents/clauses you intend to use for this purpose.

1. **Assemble Document:**   Assemble the document from the source text via the document assembly screen or via a DropDown List. The assembled document will have within it one, 10, 100 (you get the idea) fields which match up with a database, but the new document you just created doesn't yet link to the database. That is step 2, below.

2. **Link to Database:** Press the "Search Database" button (from the Pathagoras drop down list--the one with the binoculars) and click the External Database from the choices presented. Then select the name of the desired external database. Pathagoras opens the bridge template and 'borrows' the link information of that template.

 A word about 'flow':

Note, in the above process, that Pathagoras assembles the document (Step 1) totally independent from the external data source(s). The fields from the source document are present, but they are linked at this stage to nothing. The link to the data source is made only after the document is fully assembled.

This arguably 'backwards' order of assembly allows for much faster document assembly. When Word loads a form that is perpetually linked to a database, it confirms the link and makes a connection. The process is fairly fast, but it requires your intervention, and is definitely noticeable. Now imagine that you want to assemble 5 documents into one, and each of those 5 documents contains a merge field that is perpetually connected to an external database. As the document is being assembled, you will be asked to confirm the link 5 times. The calls to the external database would dramatically slow down the assembly process.)

Further, when the document is completed and all merge fields properly populated with the appropriate data, you are encouraged to disconnect the document from the data source. That way, if you need to recall the document for editing, you will not have to wait for the data source to be reconnected. (And it make it easier to edit the document on a computer that is not connected to the data source.)

Exception: If you use DropDown Lists as your primary document assembly tool, and the documents you call are complete forms and there is no other to disconnect the form from its data source, you should consider leaving the form and data source perpetually connected.

5   Links to Multiple Databases

Need to link to more than one database? We can do that!

Following the above steps, you can created up to five 'bridge templates.' After you have assembled a document, you will can link the new document to the data source by displaying the Database Settings Screen and clicking the "Link" button. It is quickly accomplished, and it is a 'best practice' in most situations. (See also [Hot Links] 35 for shortcuts.)

6   Automatic Link to Database

But what if you wish the link to the database to be 'automatic'? Pathagoras obliges.

There are two ways:

1. The first alternative is to leave the source document permanently connected to the data source. Whenever a new document is called up for assembly, the data source links come with it. This is a 'best practice' when you exclusively or primarily use complete documents as your document assembly source documents. If you use DropDown Lists as your primary document assembly tool, you may consider this technique.

2. If you assemble documents from clauses using the Libraries and Books screen, you can create the automatic link to the data source by completing the "Templates" field in the Document Assembly Settings screen. Simply assign the 'bridge template' as the book's "Template." The steps on how to do so are outlined in the Main Manual. See http://www.pathagoras.com/help/index.html?assign_template_to_book.htm.

3. This is not a third alternative so much as it is a blending of 1 and 2 above. If you use DropDown Lists for assembling documents, but wish not to maintain a permanent link between source document and data source, you can still have the benefit of the Automatic Link when you call in a document from a DropDown List.

    - Make the template-to-book assignment called for in paragraph 2 above.

    - Create (or recreate, if the List already exists) a DropDown List from the book.

When you perform the above steps, the assigned template will be added to the administrative section of the new (or regenerated) DropDown List. Any new documents created from the List will then be linked automatically to the data source.

7   Link Database to Existing Template

A 'final' issue is best framed in the form of a statement and question:

"I already have a template that I assigned to my books. That template has headers, footers, margin choices, style information, etc, that I really want. The bridge template you want me to use has none of that information. Am I stuck with using either my 'full' template or the 'bridge'?"

The answer is "No." You can have the best of both. Here are the steps:

1. Call up the 'old' template (the one you like that has the headers, footers, etc.). This must be the 'original' template, not a document created 'on top of' the template.

2. Attach the data source to to the template. You can use the DataBase Settings screen to effect the link or shortcut the process and use the first few steps in the "Create Bridge Template" pages of this manual and directly connect the template to the data source.

3. Save the 'new' template. It will have the margins, headers, etc., plus it will connect to the data source automatically.

8   Derivative Database

The problem: The data maintained by most databases contain much more data that what are needed to produce a typical document. It would be cumbersome to directly link to them and then have to scroll though dozens, if not many hundreds, of fields to select the ones that are appropriate for the document under construction.

The solution: create sub-set of the database, selecting only relevant fields and culling out the useless one. The selected fields could be used to create a more useable 'derivative' database.

This derivative concept actually is a necessity with some programs. Many databases do not allow you directly access to their data from any external program. This promotes security of the data (so that it cannot be stolen by others) and the integrity of the source data. (These concepts are not identical. 'Security' refers to the ability of a 3rd party to abscond with the data maintained by the parent program. 'Integrity' refers to controlling the ability of others to change the raw data.)

All major (and probably all minor) databases can create such derivative databases. They can export them into 'comma separated value' files, a type of database with which Pathagoras works especially well. The files can be created every morning (or at every relevant time, maybe two or three times a day). And the process of creating the derivative database can be automated in such a way that it takes no more time to create a new (updated) CSV file than it takes to open the parent program.

Creating a Derivative Database:

Warning:

The following requires you to have a solid working knowledge of the operation and structure of your external database system. Before trying to tie Pathagoras and an external database together, you should know where (i.e., which databases and tables) you data is stored. For example, TimeMatters® stores data in many different tables, but the primary tables for the type of personal data you likely will want for documents will be "Contacts" and "Matters."

If you are not totally confident about working with your external database, you should consult with the expert in your external database before trying to implement the data sharing techniques discussed below.

Assumptions:

We assume only two things before getting started in creating a derivative CSV database.

1. That you have an external database which already contains data which you want to use to complete documents created using Pathagoras.

2. That you know, or can determine, the names of the fields in that external database that contains the desired data.

The process:

The first step is to create and save a "export guidelines" within the external data source. This is a one time step.

The second step is to export the records identified by the export guidelines into a CSV file. This step is repeated as often as necessary (daily, weekly, etc.) to make sure that the derivative CSV file is 'up to date.'

The following is general guidance on how to create the "export template." Check the documentation that came with your database system or ask your systems administrator for guidance on the specific steps you must take.

General Instructions for creating the export guidelines.

1. Activate your the external database program.

2. Find the routine that will export data. If frequently is called simply "Export." Click it.

3. Follow the prompts to create the template, using the following concepts to guide you in structuring the final results.

4. You likely will be asked how you want the individual records separated. Select linefeed ("LF") or carriage return ("CR") or if available "LF/CR".

5. You likely will be asked how you want the individual values within a record to be separated. Typical choices include 'tabs' and 'commas.' SELECT COMMAS. The name for this not standard across all programs, so look for the phrases "comma delimited" or "comma separated value" or "CSV."

6. You will be asked something along the lines of "Do you want to Export the Field Names as the First Record?". Answer this "Yes." (This is a critical aspect of the routine. If the field names are not exported, the field names and data matchups cannot occur.)

7. You likely will be asked if you want all or a selection of the available records. We'll leave that up to you. If you can sort by date and just want the records from the last one or two months (or years or decades), make the appropriate selection. If you want to create separate CSV files for each attorney or agent or whatever in the office, make that selection.

8. You will be asked to name the file into which the derivative data will be saved. You can name it anything and put it anywhere, you want, but you must be able to find it for later use. If you cannot think of a better place, save it into a folder on your desktop that you call "Database." Call the file "ClientData.csv".

9. You will be asked if you want to save the export guidelines. Say 'Yes' and give it a name that you will remember.

Once the export guidelines are created, you won't have to do that again. Of course, in the early stages, as you are refining the field selections (adding more fields to the exported database or removing extraneous ones), you may come back to the template, but you will rarely, if ever, have to start all over.

Updating the derivative database:

As new records are added to, corrections made in, and records deleted from, the main database, you will want to regenerate the derivative database. As with creating the original database, the steps vary, but essentially you will activate the database and call up and 'run' the Export Guidelines you created earlier. Everything else should be quite

automatic. Indeed, to the extent that the database has Automation or Macro features, you should be able to create a one-touch approach to regenerating the derivative database.

9   Hot Links

Want to quickly link to a database? Or unlink from one? Or search one? Try one of these hot links followed by <Alt-G>:

To call a hotlink, type one of the following words (no quotes, all lower case) onto a blank line on your editing screen (maybe at the very top, or the very bottom, but if you see a blank line anywhere else, it will work) followed immediately by the key press of <Alt-G>.

'link': A screen displays, allowing you to select the particular database from a drop down list. (If you only have one data link assigned, Pathagoras will not present a selection screen, but rather will link automatically to that sole data source.)

'unlink': quickly and automatically unlink your document from the database. (Pathagoras recommends -- but does not demand -- unlinking from your data source before saving an assembled document.)

'searchdb' or 'dbsearch': Just as the name implies, search the database linked to the active document for the values to be placed into the various database fields.

If you forget these shortcut, the Database Settings Screen offers a reminder. Check out the blue text boxes in the lower right quadrant of the screen (tear off shown below):
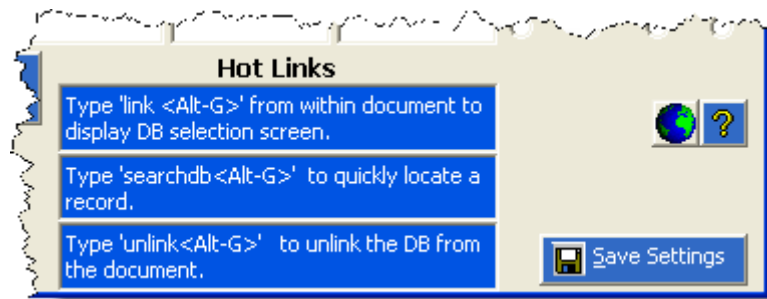
10   Exporting Data to Other Programs

Pathagoras' Instant Database module saves its matter data records as individual "CSV" files. As discussed elsewhere, 'CSV' is a common format for sharing data among unrelated programs.

Not only can Pathagoras read CSV files, but other program can read the CSV files that Pathagoras creates. If you want to take advantage of the data saved by Pathagoras, you should be able to use the 'import' function of your external database program. Of course you will need to know where to point the external program to capture the data. By default, Pathagoras saves IDB records in the folder "C:\Program Files\Pathagoras\IDBs. Hoever, the system administrator can place the IDB files anywhere. The current location of the IDB files can always be found in the 'File Locations' tab of the Instant Database Tools screen. Point your external database to this folder to accomplish the data import.

Index

- A -

- B -

- C -

- D -

- E -

- H -

- M -

- Q -

- S -