IPI Paul

Working with Outlook VBA, C# Add-in, Internet Explorer and JQuery

Name : Outlook Add-in
Type : VBA, JavaScript and JQuery
Designer : Paul I Ighofose
Date Created : 16/07/2021
Date Updated : 23/08/2021
Optional : Microsoft Office 2013+, Internet Explorer
Function : Outlook Right Click Context Menu, Dynamic and Functional Popup Lists

Introduction

In my role as Senior Finance Analyst for NHS North West Surrey CCG I found myself yearning for right click functions in Outlook that would enable me to select an Invoice Number, Vendor Name or Cost Centre code and have a list of choices to view detailed information maintained in my SQL Server Local Db attached databases.

Before creating this first C# VSTO Outlook Add-in application, I made good use of the Ribbon customisations and probably have over a thousand of them for Excel, Outlook and Word. Before the move to Office 365 in the NHS, I stuck to using just VBA MSForms user forms with WebBrowser controls but was slightly put off by the way 365 had some compatibility issues with smaller result sets. When I found that many JQuery right menu samples on the web did not work in the WebBrowser controls, it was time to make a switch to using the VBA Internet Explorer Object.

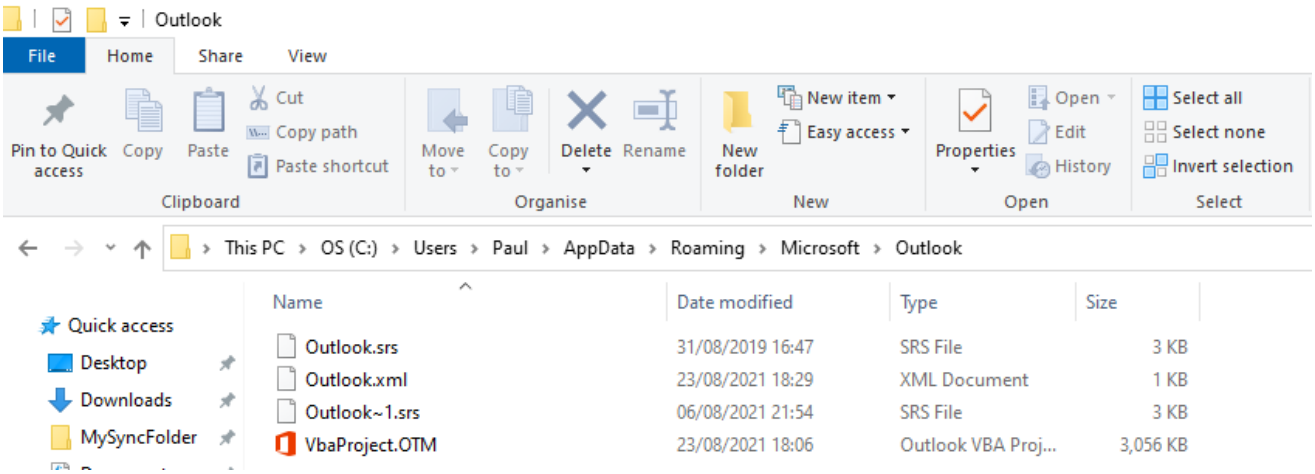
At the time I started this project I was unable to find a JQuery stepped Menu example that I could implement and settled on using an accordion style menu.

Package Structure

The original package structure was built using Visual Studio 2019 Set-Up Project, but as I currently testing VS2022 Preview 2 and it does not support Installation Projects, I will have to wait to make it available.

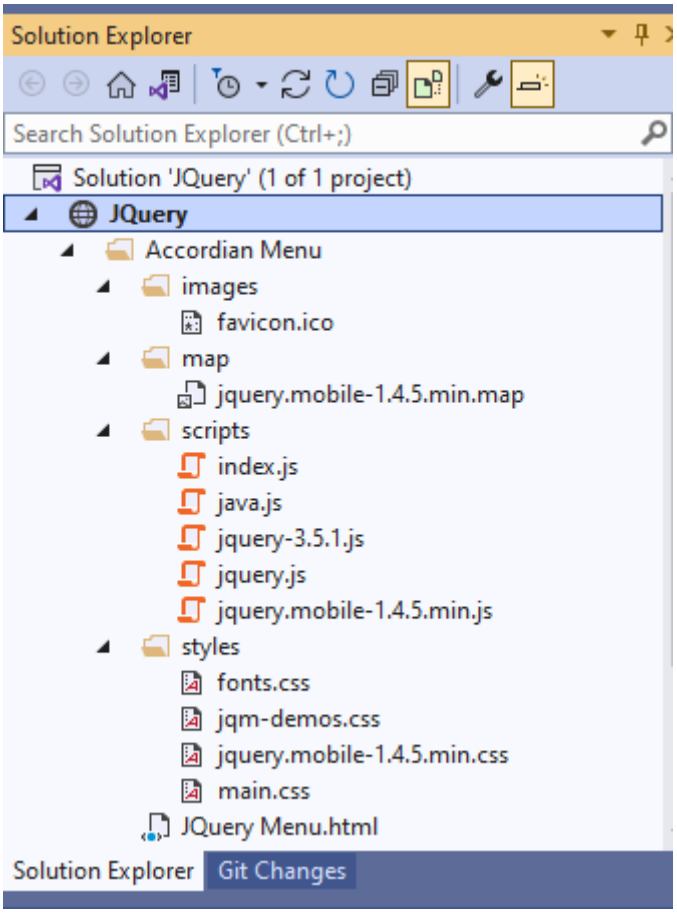
Operational Guide

- You will need to create a backup folder in %appdata%\Roaming\Microsoft\Outlook
- Close Outlook and move your current VBA Project file (VbaProject.OTM) to the new backup folder

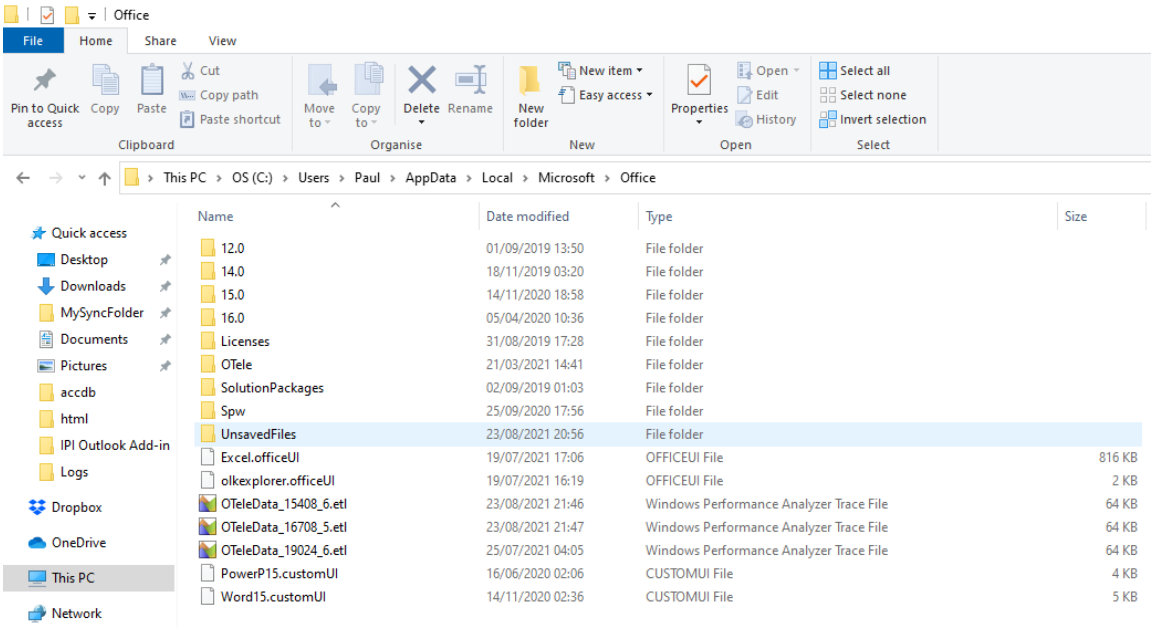


- Then copy the supplied VBA Project File to the %appdata%\Roaming\Microsoft\Outlook folder

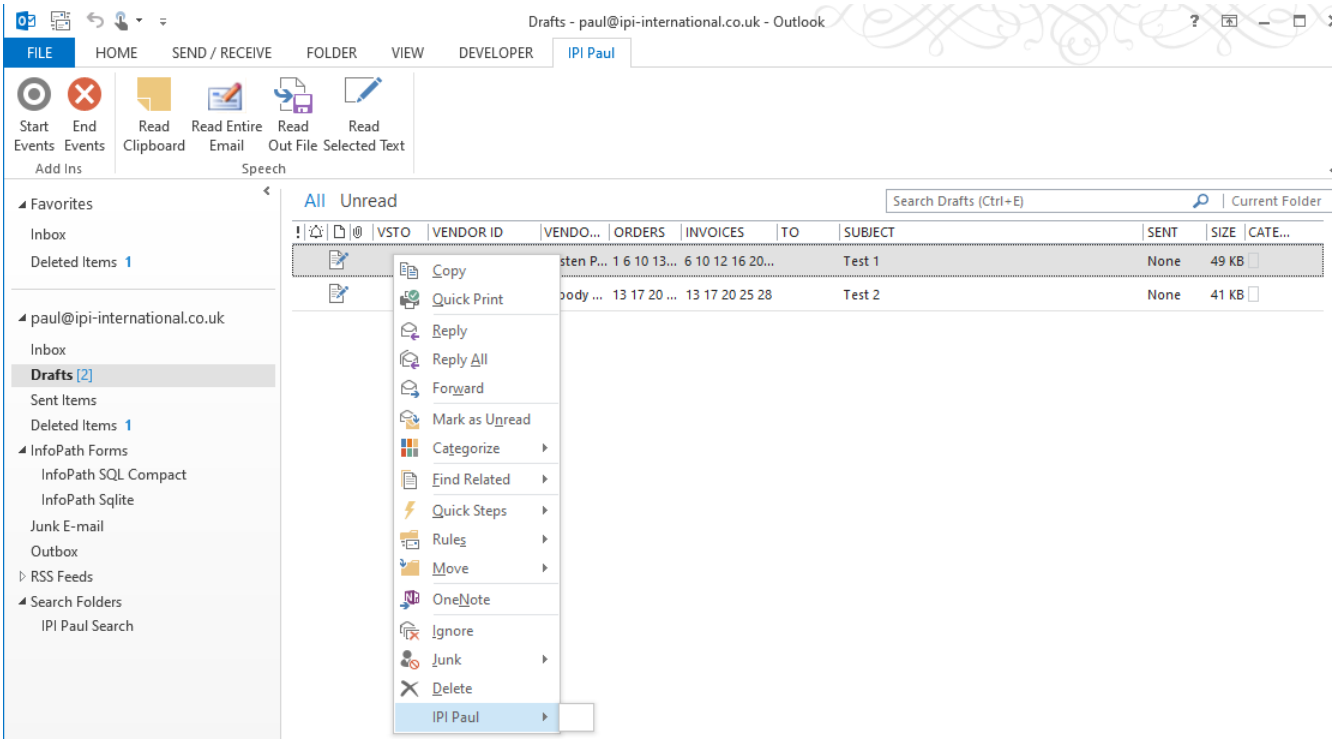
- I prefer to keep all my Source Files in a folder called Source Files in my Documents folder (%userprofile%\Documents\Source Files\)
    - I then keep each file in a folder by extension (i.e docx, docm or xlsm folders)
    - Where ever you choose to keep them is your choice, but you will have to amend some of the code to pick up files from those locations
- The JQuery Visual Studio Project files can be kept at any location as you will only need to run the Project once to get the Outlook Add-in implemented and added to your list of Outlook Add-ins



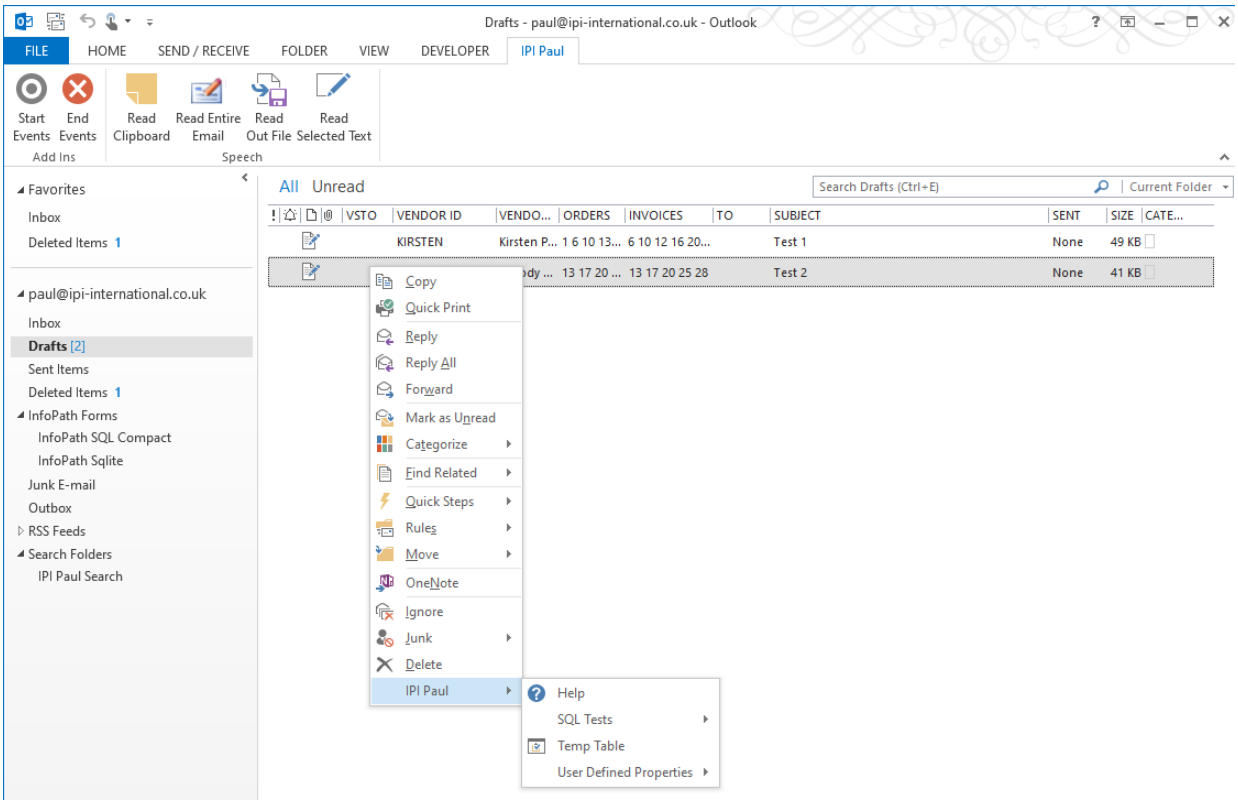
- I have adapted the samples from `jQuery Mobile 1.4.5` to make them more closely suit my desired usage
- You will also need to create a backup folder in %appdata%\..\Local\Microsoft\Office\



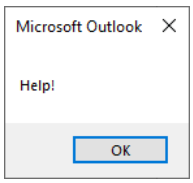
- You should move your Outlook Explorer Custom Ribbon UI file to the backup folder before placing the olkexplorer.officeUI in the folder %appdata%\..\Local\Microsoft\Office\
- For the SQL Server VBA you will need to change the SQL Server Placeholder name to the name of your own SQL Server
- With having run the JQuery build and then Debug for the first time, the Custom Ribbon UI the VBA Project file in place.. You will now see an IPI Paul Ribbon Item and a right click IPI Paul menu item



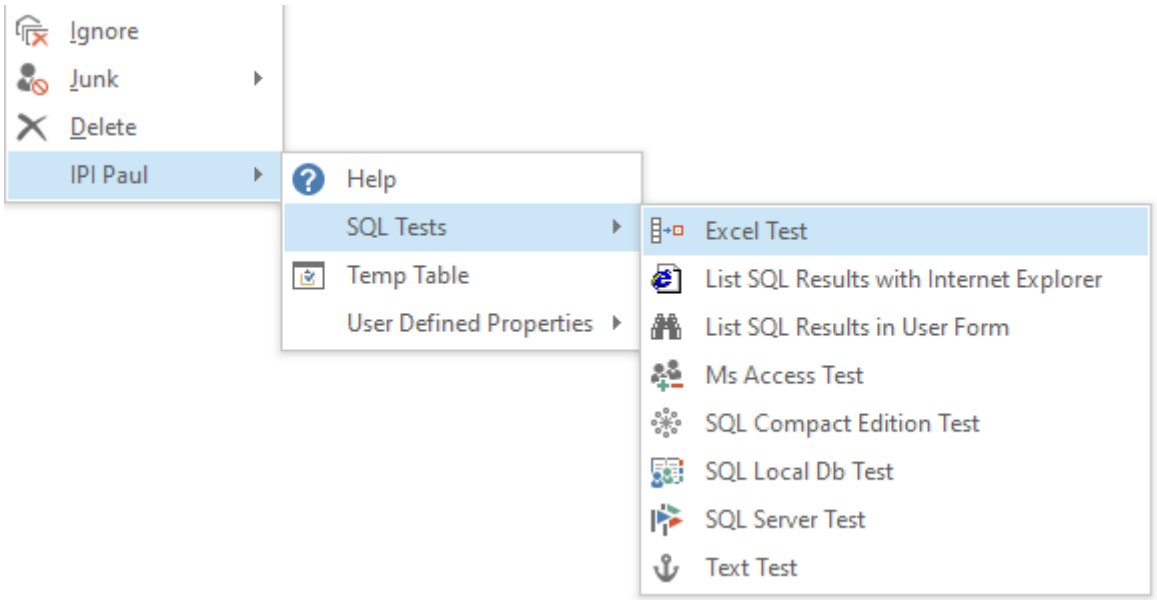
- Click the Start Events button on the IPI Ribbon menu to initiate the With Events handlers that populate and respond to the Right Click IPI Paul menu item. Note you will have to move focus from the current email to complete initiation process



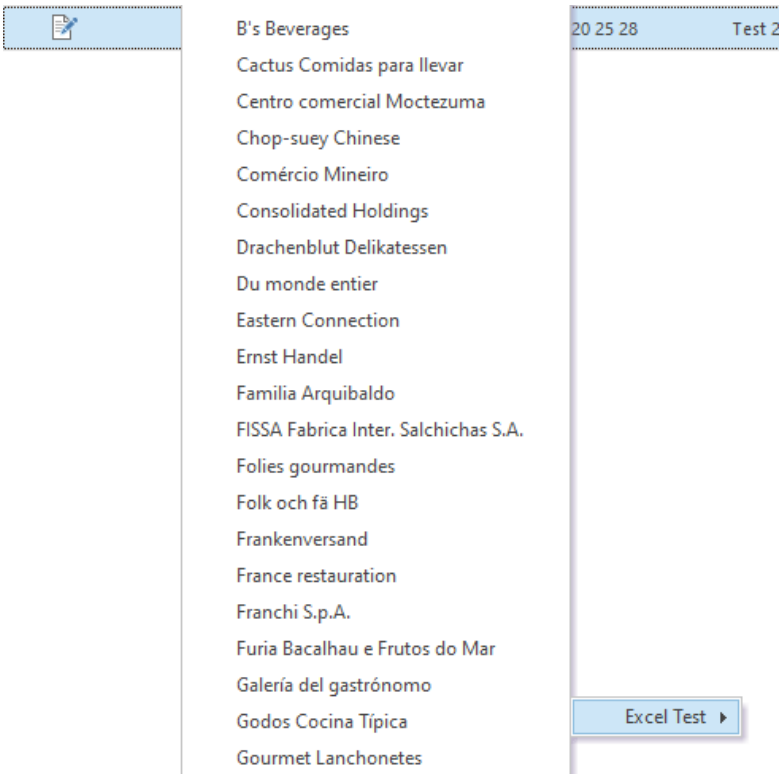
- Also note that the menu list items for IPI Paul context menu is written in the VBA Project and passed to the C# Application. That way you don't have to do anything to modify the C# Application.
- Most of the buttons just run simple functions to highlight what capabilities exist
    - Help just displays a message box pop-up



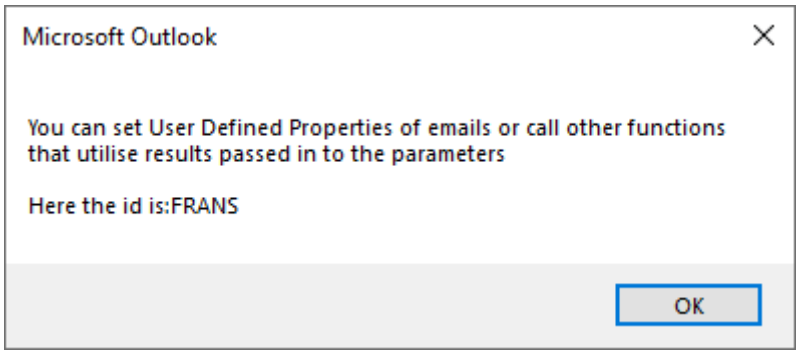
    - SQL Test list various pop-ups generated from ADODB result sets



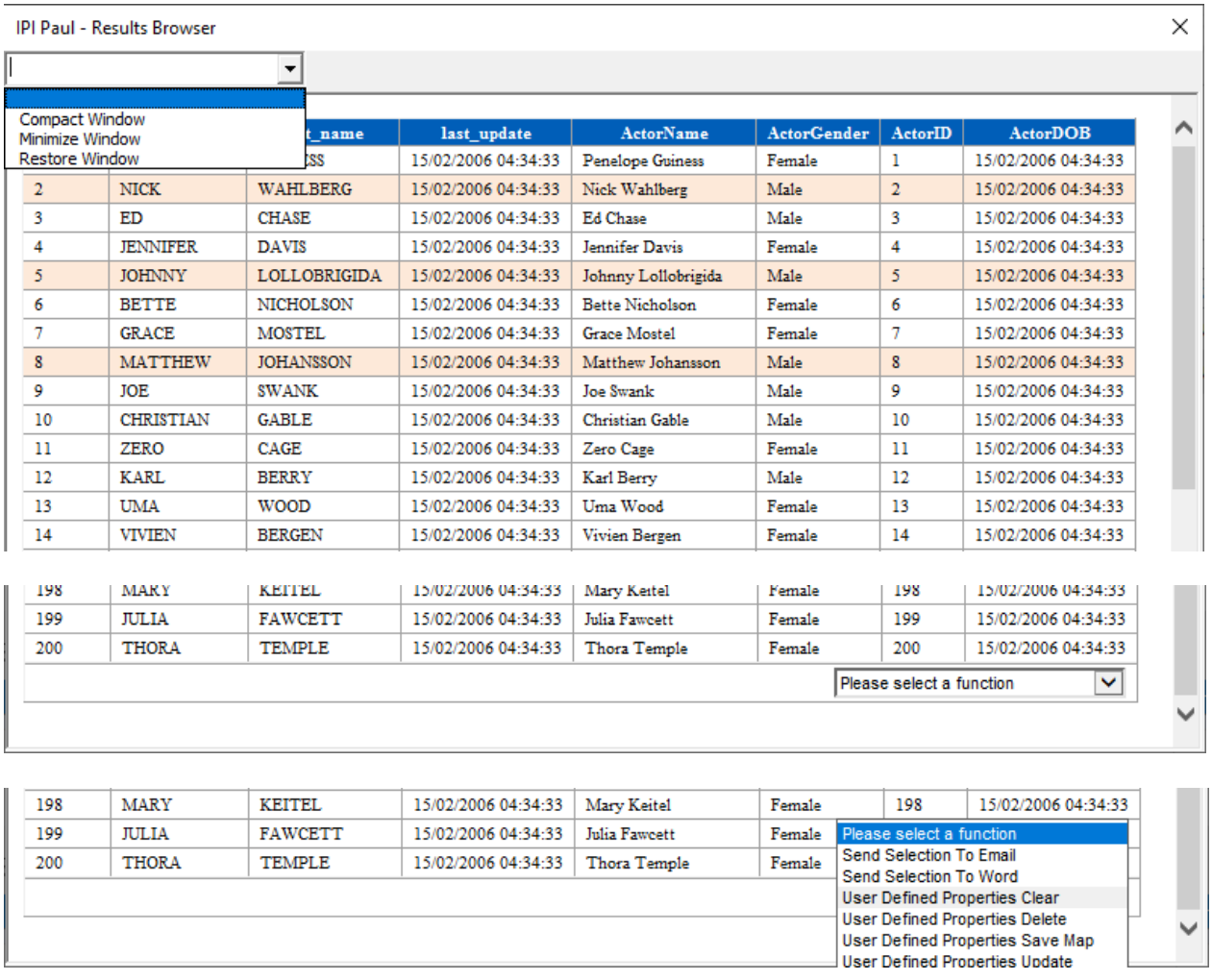
        - Excel Test uses an ADODB connection to an Excel workbook then builds a VBA CommandBars menu to display a single column (in this case Company Names)



- Clicking an item in the CommandBars menu produces a message box further highlighting possible uses and the parameter being used to initiate or call other VBA functions

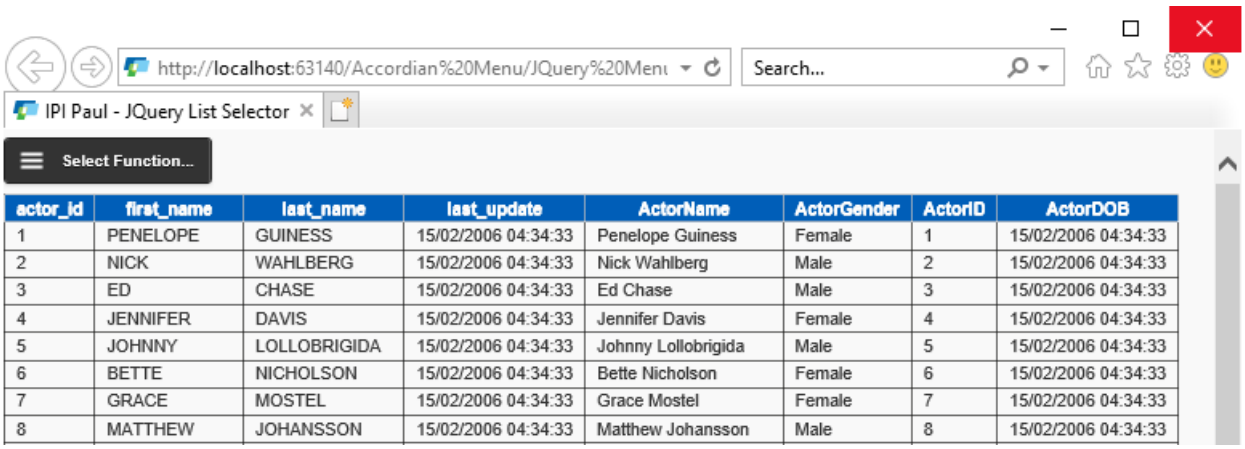


- Ms Access Test; SQL Compact Edition; SQL Local Db Test; SQL Server Test; and Text Test all do the same as the Excel Test except that the ADODB connection is to each of their applications or in the case of the Text Test , a tab delimited file with schema.ini in the same folder
- List SQL Results in User Form uses an ADODB connection to SQL Server then uses VBA to build an HTML document to be displayed inside a user form



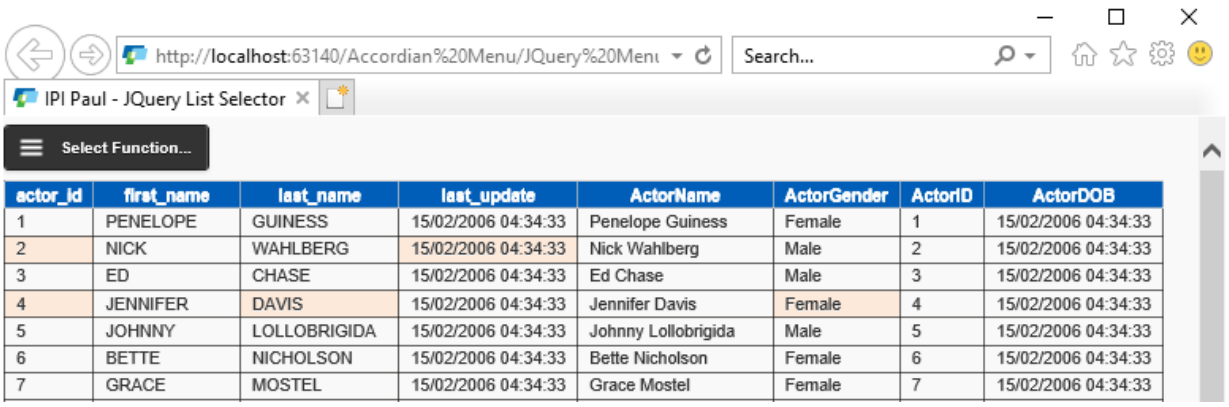
- JavaScript uses double click events to highlight rows for later selection
- Event handlers for the WebBrowser control pick up the changes to Select options and call the relevant VBA script

- List SQL Results with Internet Explorer uses an ADODB connection to SQL Server and then calls a running instance on the Localhost of the JQuery Menu.html file of your JQuery Visual Studio Project. If you have not already started the project with a debug run or you are not hosting the JQuery Visual Studio Project files on an intranet the page will not load



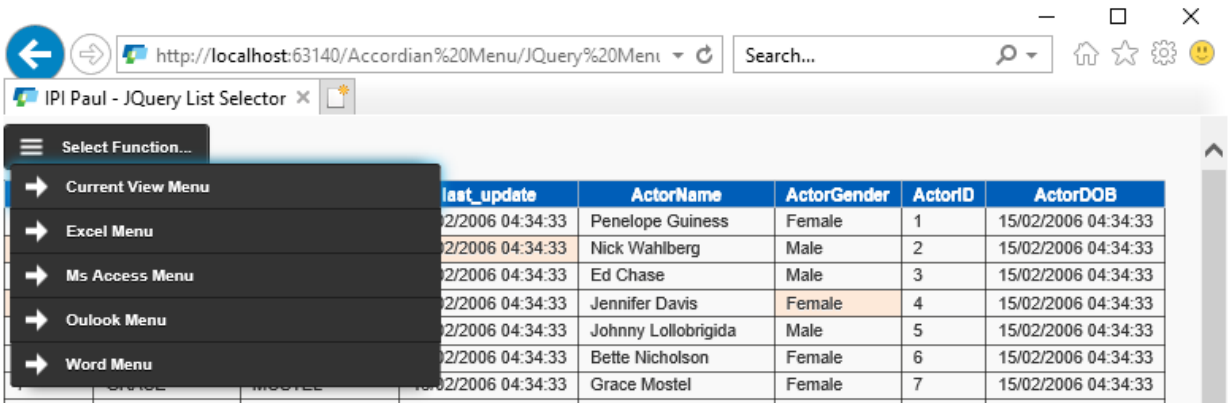
actor_id	first_name	last_name	last_update	ActorName	ActorGender	ActorID	ActorDOB
1	PENELOPE	GUINESS	15/02/2006 04:34:33	Penelope Guiness	Female	1	15/02/2006 04:34:33
2	NICK	WAHLBERG	15/02/2006 04:34:33	Nick Wahlberg	Male	2	15/02/2006 04:34:33
3	ED	CHASE	15/02/2006 04:34:33	Ed Chase	Male	3	15/02/2006 04:34:33
4	JENNIFER	DAVIS	15/02/2006 04:34:33	Jennifer Davis	Female	4	15/02/2006 04:34:33
5	JOHNNY	LOLLOBRIGIDA	15/02/2006 04:34:33	Johnny Lollobrigida	Male	5	15/02/2006 04:34:33
6	BETTE	NICHOLSON	15/02/2006 04:34:33	Bette Nicholson	Female	6	15/02/2006 04:34:33
7	GRACE	MOSTEL	15/02/2006 04:34:33	Grace Mostel	Female	7	15/02/2006 04:34:33
8	MATTHEW	JOHANSSON	15/02/2006 04:34:33	Matthew Johansson	Male	8	15/02/2006 04:34:33

- JQuery is used to capture click events and either highlight or un-highlight the clicked table cell. The same click events are picked up by VBA in the With Events handlers of Outlook

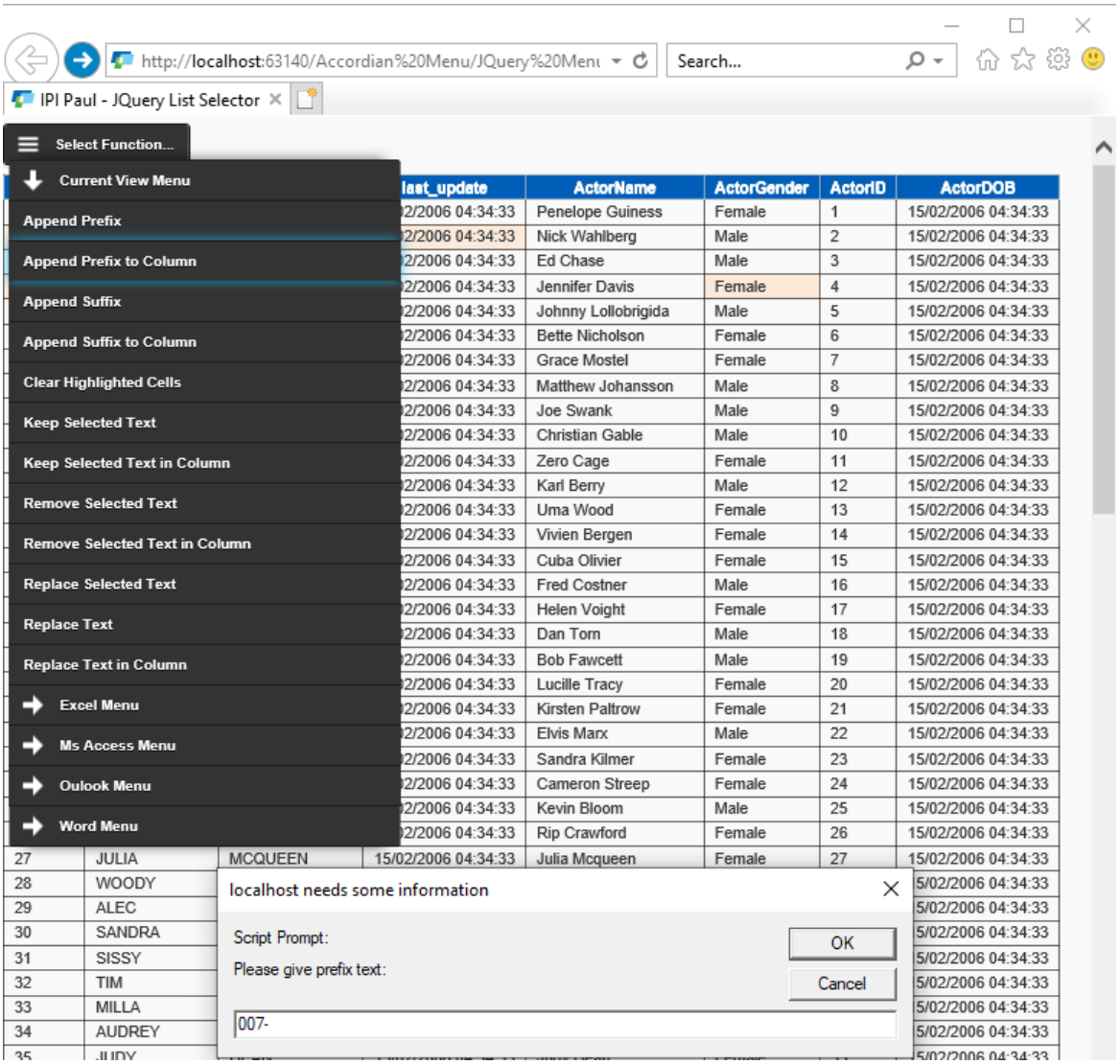


actor_id	first_name	last_name	last_update	ActorName	ActorGender	ActorID	ActorDOB
1	PENELOPE	GUINESS	15/02/2006 04:34:33	Penelope Guiness	Female	1	15/02/2006 04:34:33
2	NICK	WAHLBERG	15/02/2006 04:34:33	Nick Wahlberg	Male	2	15/02/2006 04:34:33
3	ED	CHASE	15/02/2006 04:34:33	Ed Chase	Male	3	15/02/2006 04:34:33
4	JENNIFER	DAVIS	15/02/2006 04:34:33	Jennifer Davis	Female	4	15/02/2006 04:34:33
5	JOHNNY	LOLLOBRIGIDA	15/02/2006 04:34:33	Johnny Lollobrigida	Male	5	15/02/2006 04:34:33
6	BETTE	NICHOLSON	15/02/2006 04:34:33	Bette Nicholson	Female	6	15/02/2006 04:34:33
7	GRACE	MOSTEL	15/02/2006 04:34:33	Grace Mostel	Female	7	15/02/2006 04:34:33

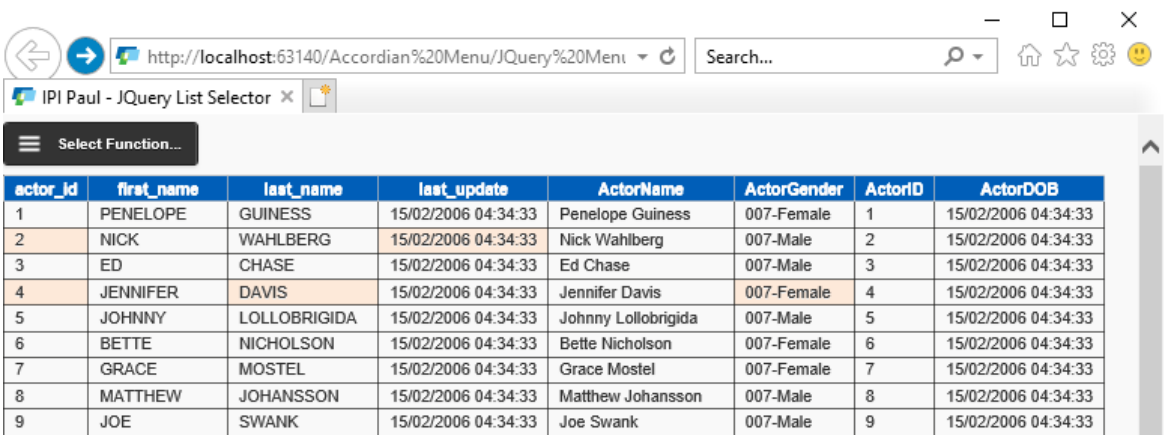
- Although I intend a more elaborate menu selection for my own workplace, the current menu has proven fit for testing purposes



- Current View Menu provides functions that allow changes to be made to the table headers and cells from generated prompts. These are all written in the JQuery Project itself and not part of the VBA code



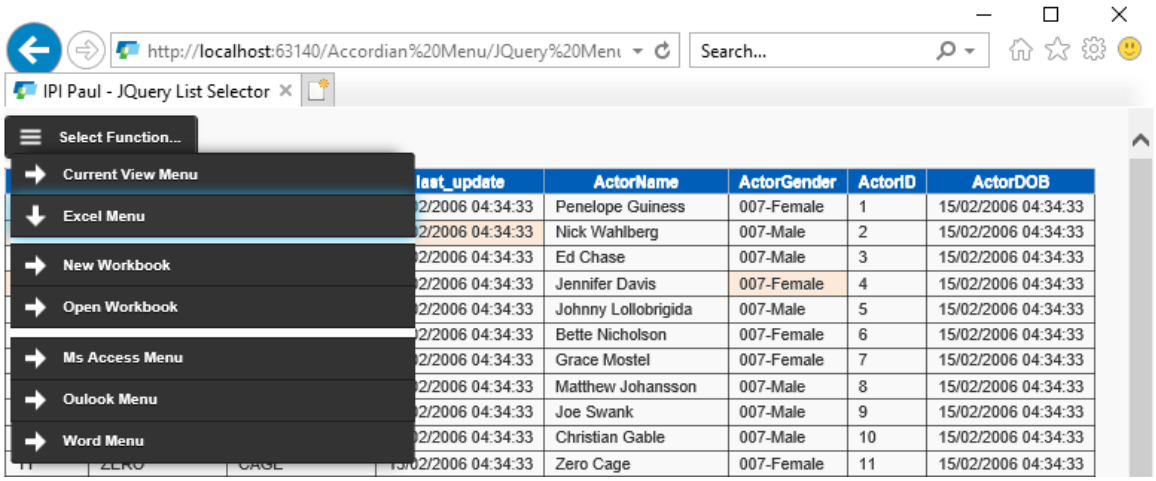
- As you can see here, the column of the last cell clicked on (highlighted) is updated. Even if all columns had highlighted cells, if you clicked on a cell in column 2 then column 2 will be updated



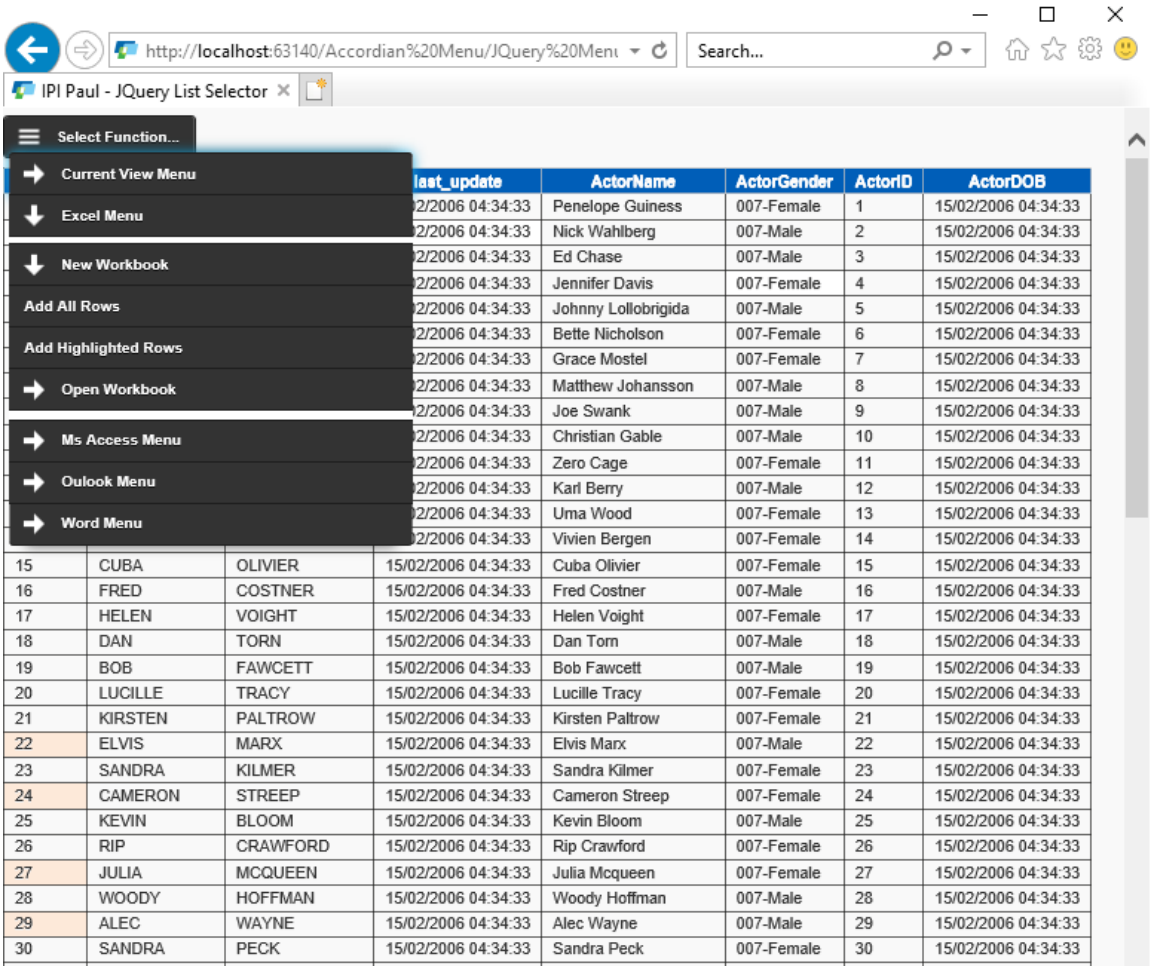
actor_id	first_name	last_name	last_update	ActorName	ActorGender	ActorID	ActorDOB
1	PENELOPE	GUINESS	15/02/2006 04:34:33	Penelope Guiness	007-Female	1	15/02/2006 04:34:33
2	NICK	WAHLBERG	15/02/2006 04:34:33	Nick Wahlberg	007-Male	2	15/02/2006 04:34:33
3	ED	CHASE	15/02/2006 04:34:33	Ed Chase	007-Male	3	15/02/2006 04:34:33
4	JENNIFER	DAVIS	15/02/2006 04:34:33	Jennifer Davis	007-Female	4	15/02/2006 04:34:33
5	JOHNNY	LOLLOBRIGIDA	15/02/2006 04:34:33	Johnny Lollobrigida	007-Male	5	15/02/2006 04:34:33
6	BETTE	NICHOLSON	15/02/2006 04:34:33	Bette Nicholson	007-Female	6	15/02/2006 04:34:33
7	GRACE	MOSTEL	15/02/2006 04:34:33	Grace Mostel	007-Female	7	15/02/2006 04:34:33
8	MATTHEW	JOHANSSON	15/02/2006 04:34:33	Matthew Johansson	007-Male	8	15/02/2006 04:34:33
9	JOE	SWANK	15/02/2006 04:34:33	Joe Swank	007-Male	9	15/02/2006 04:34:33

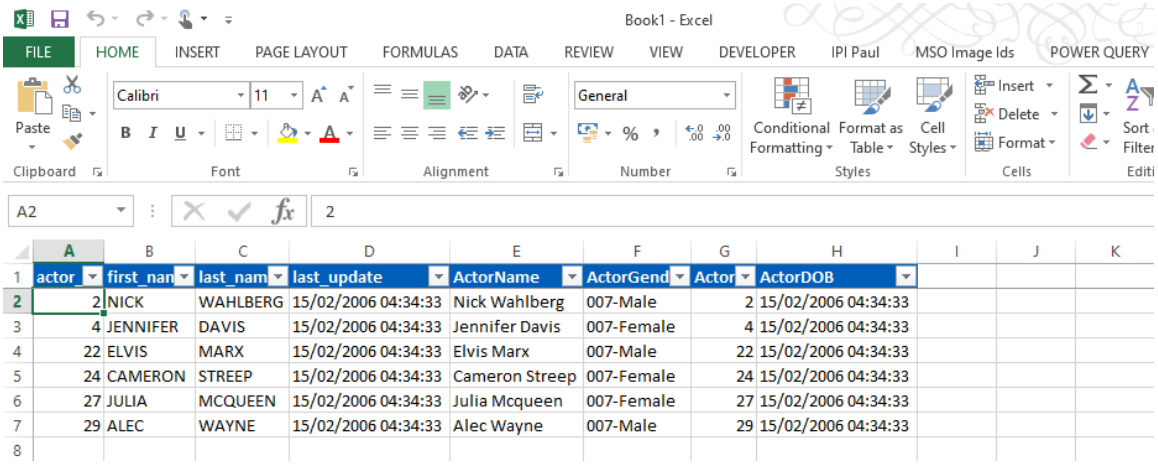
- You may even just partially select text within cells and make changes as per menu selections

- Excel Menu uses both JQuery scripts and initiates VBA code in Outlook



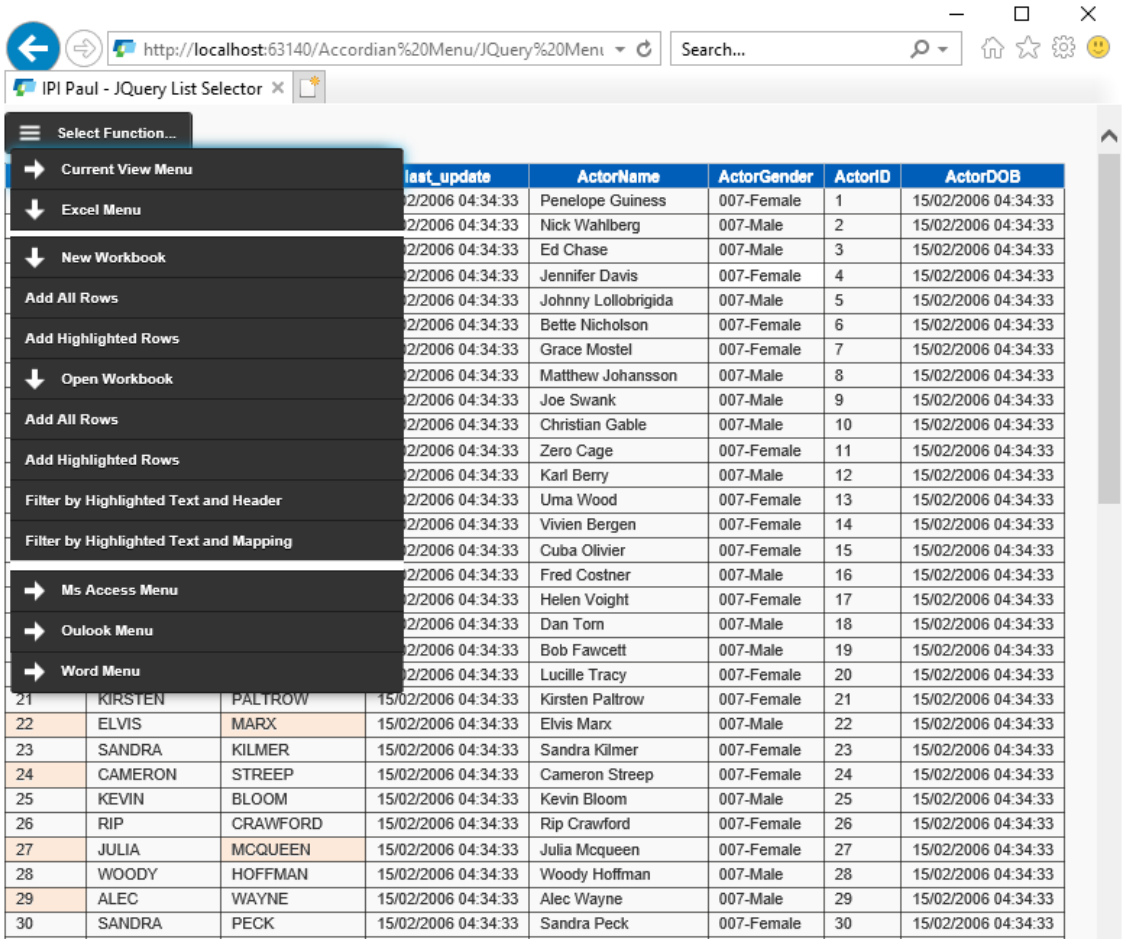
- Remember that the main aim is really to only retrieve specific information regarding a selection in an Outlook item. So, although retrieving all records in the page to a new Excel workbook is not the fastest, retrieving selected (highlighted) rows is fast enough. Formatting and filtering to the generated workbook are all applied by the Outlook VBA code reading the table style of the Internet Explorer page





	A	B	C	D	E	F	G	H	I	J	K
1	actor_	first_nan	last_nam	last_update	ActorName	ActorGend	Actor	ActorDOB			
2	2	NICK	WAHLBERG	15/02/2006 04:34:33	Nick Wahlberg	007-Male	2	15/02/2006 04:34:33			
3	4	JENNIFER	DAVIS	15/02/2006 04:34:33	Jennifer Davis	007-Female	4	15/02/2006 04:34:33			
4	22	ELVIS	MARX	15/02/2006 04:34:33	Elvis Marx	007-Male	22	15/02/2006 04:34:33			
5	24	CAMERON	STREEP	15/02/2006 04:34:33	Cameron Streep	007-Female	24	15/02/2006 04:34:33			
6	27	JULIA	MCQUEEN	15/02/2006 04:34:33	Julia Mcqueen	007-Female	27	15/02/2006 04:34:33			
7	29	ALEC	WAYNE	15/02/2006 04:34:33	Alec Wayne	007-Male	29	15/02/2006 04:34:33			
8											

- Adding rows to an already open workbook will include the headers and start from the column and row selected in Excel
- Filtering can be done either by using the page headers or a mapping table option included in the Outlook Menu portion. Hence you either have the option of changing the Header Text on the page to match the headers in the Excel workbook or creating a mapping



	last_update	ActorName	ActorGender	ActorID	ActorDOB
	2/2006 04:34:33	Penelope Guiness	007-Female	1	15/02/2006 04:34:33
	2/2006 04:34:33	Nick Wahlberg	007-Male	2	15/02/2006 04:34:33
	2/2006 04:34:33	Ed Chase	007-Male	3	15/02/2006 04:34:33
	2/2006 04:34:33	Jennifer Davis	007-Female	4	15/02/2006 04:34:33
	2/2006 04:34:33	Johnny Lollobrigida	007-Male	5	15/02/2006 04:34:33
	2/2006 04:34:33	Bette Nicholson	007-Female	6	15/02/2006 04:34:33
	2/2006 04:34:33	Grace Mostel	007-Female	7	15/02/2006 04:34:33
	2/2006 04:34:33	Matthew Johansson	007-Male	8	15/02/2006 04:34:33
	2/2006 04:34:33	Joe Swank	007-Male	9	15/02/2006 04:34:33
	2/2006 04:34:33	Christian Gable	007-Male	10	15/02/2006 04:34:33
	2/2006 04:34:33	Zero Cage	007-Female	11	15/02/2006 04:34:33
	2/2006 04:34:33	Karl Berry	007-Male	12	15/02/2006 04:34:33
	2/2006 04:34:33	Uma Wood	007-Female	13	15/02/2006 04:34:33
	2/2006 04:34:33	Vivien Bergen	007-Female	14	15/02/2006 04:34:33
	2/2006 04:34:33	Cuba Olivier	007-Female	15	15/02/2006 04:34:33
	2/2006 04:34:33	Fred Costner	007-Male	16	15/02/2006 04:34:33
	2/2006 04:34:33	Helen Voight	007-Female	17	15/02/2006 04:34:33
	2/2006 04:34:33	Dan Torn	007-Male	18	15/02/2006 04:34:33
	2/2006 04:34:33	Bob Fawcett	007-Male	19	15/02/2006 04:34:33
	2/2006 04:34:33	Lucille Tracy	007-Female	20	15/02/2006 04:34:33
21 KIRSTEN PALTROW	15/02/2006 04:34:33	Kirsten Paltrow	007-Female	21	15/02/2006 04:34:33
22 ELVIS MARX	15/02/2006 04:34:33	Elvis Marx	007-Male	22	15/02/2006 04:34:33
23 SANDRA KILMER	15/02/2006 04:34:33	Sandra Kilmer	007-Female	23	15/02/2006 04:34:33
24 CAMERON STREEP	15/02/2006 04:34:33	Cameron Streep	007-Female	24	15/02/2006 04:34:33
25 KEVIN BLOOM	15/02/2006 04:34:33	Kevin Bloom	007-Male	25	15/02/2006 04:34:33
26 RIP CRAWFORD	15/02/2006 04:34:33	Rip Crawford	007-Female	26	15/02/2006 04:34:33
27 JULIA MCQUEEN	15/02/2006 04:34:33	Julia Mcqueen	007-Female	27	15/02/2006 04:34:33
28 WOODY HOFFMAN	15/02/2006 04:34:33	Woody Hoffman	007-Male	28	15/02/2006 04:34:33
29 ALEC WAYNE	15/02/2006 04:34:33	Alec Wayne	007-Male	29	15/02/2006 04:34:33
30 SANDRA PECK	15/02/2006 04:34:33	Sandra Peck	007-Female	30	15/02/2006 04:34:33

	A	B	C	D	E	F	G	H
1	actor_	first_nan	last_nam	last_update	ActorName	ActorGend	Actor	ActorDOB
4	22	ELVIS	MARX	15/02/2006 04:34:33	Elvis Marx	007-Male	22	15/02/2006 04:34:33
6	27	JULIA	MCQUEEN	15/02/2006 04:34:33	Julia Mcqueen	007-Female	27	15/02/2006 04:34:33
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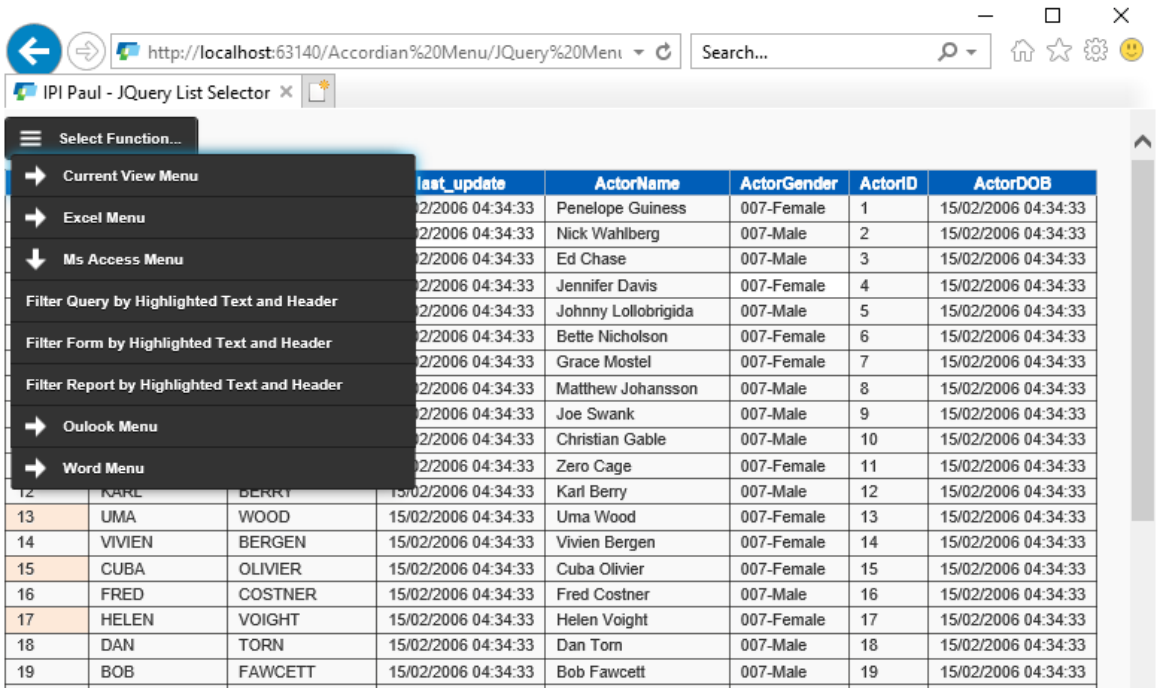
- The Ms Access Menu is also picked up by the Outlook With Events handlers which in turn call an Access module event that updates a QueryDefs SQL and then opens the menu item selected



			last_update	ActorName	ActorGender	ActorID	ActorDOB
			2/2006 04:34:33	Penelope Guiness	007-Female	1	15/02/2006 04:34:33
			2/2006 04:34:33	Nick Wahlberg	007-Male	2	15/02/2006 04:34:33
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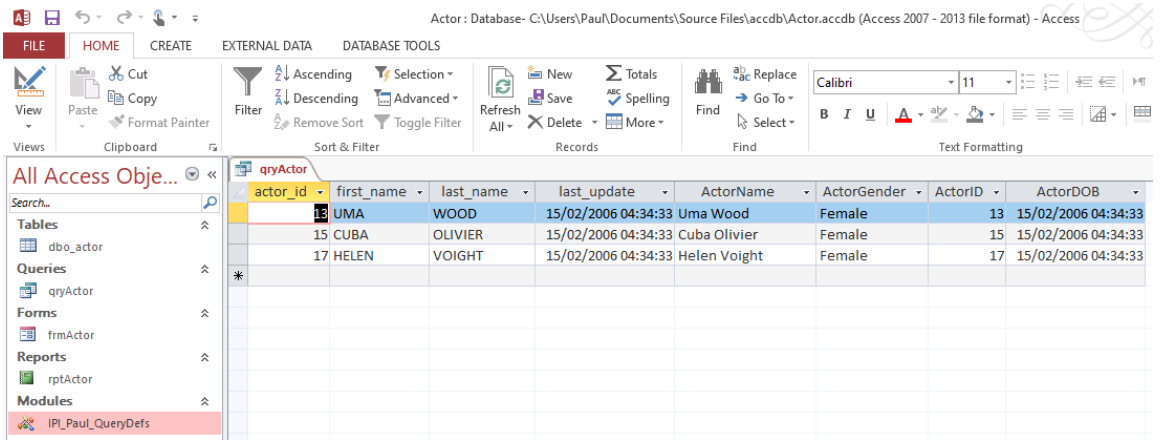
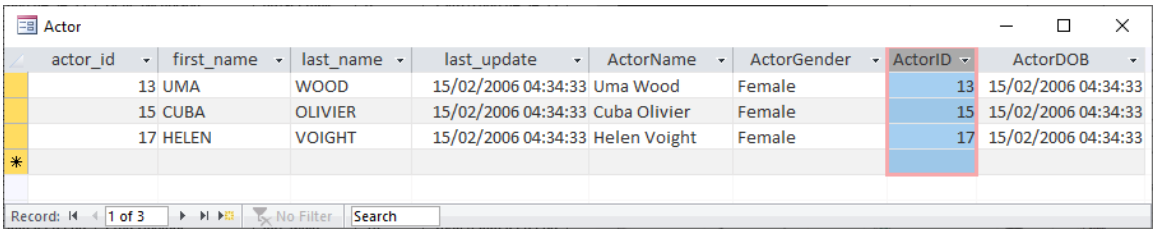
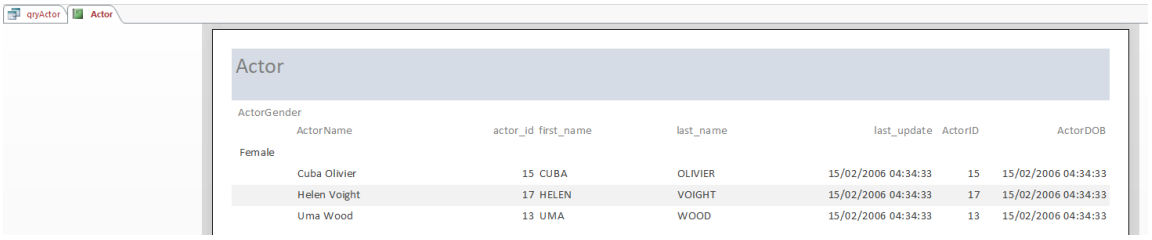
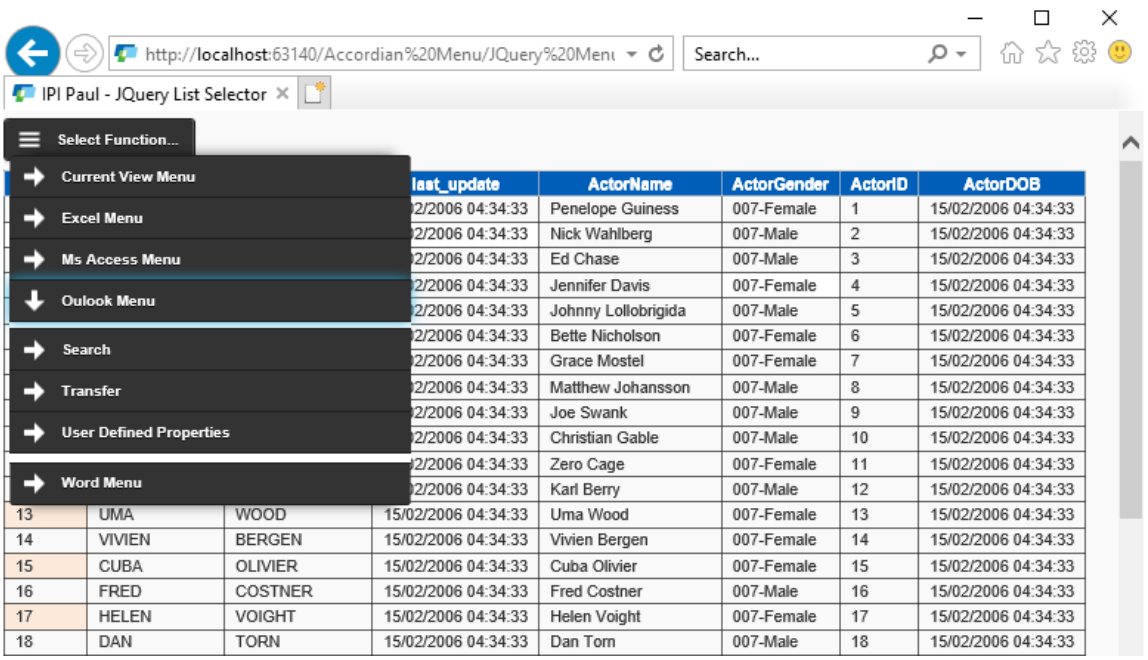
			2/2006 04:34:33	Jennifer Davis	007-Female	4	15/02/2006 04:34:33
			2/2006 04:34:33	Johnny Lollobrigida	007-Male	5	15/02/2006 04:34:33
			2/2006 04:34:33	Bette Nicholson	007-Female	6	15/02/2006 04:34:33
			2/2006 04:34:33	Grace Mostel	007-Female	7	15/02/2006 04:34:33
			2/2006 04:34:33	Matthew Johansson	007-Male	8	15/02/2006 04:34:33
			2/2006 04:34:33	Joe Swank	007-Male	9	15/02/2006 04:34:33
			2/2006 04:34:33	Christian Gable	007-Male	10	15/02/2006 04:34:33
			2/2006 04:34:33	Zero Cage	007-Female	11	15/02/2006 04:34:33
12	KARL	BERRY	15/02/2006 04:34:33	Karl Berry	007-Male	12	15/02/2006 04:34:33
13	UMA	WOOD	15/02/2006 04:34:33	Uma Wood	007-Female	13	15/02/2006 04:34:33
14	VIVIEN	BERGEN	15/02/2006 04:34:33	Vivien Bergen	007-Female	14	15/02/2006 04:34:33
15	CUBA	OLIVIER	15/02/2006 04:34:33	Cuba Olivier	007-Female	15	15/02/2006 04:34:33
16	FRED	COSTNER	15/02/2006 04:34:33	Fred Costner	007-Male	16	15/02/2006 04:34:33
17	HELEN	VOIGHT	15/02/2006 04:34:33	Helen Voight	007-Female	17	15/02/2006 04:34:33
18	DAN	TORN	15/02/2006 04:34:33	Dan Torn	007-Male	18	15/02/2006 04:34:33
19	BOB	FAWCETT	15/02/2006 04:34:33	Bob Fawcett	007-Male	19	15/02/2006 04:34:33





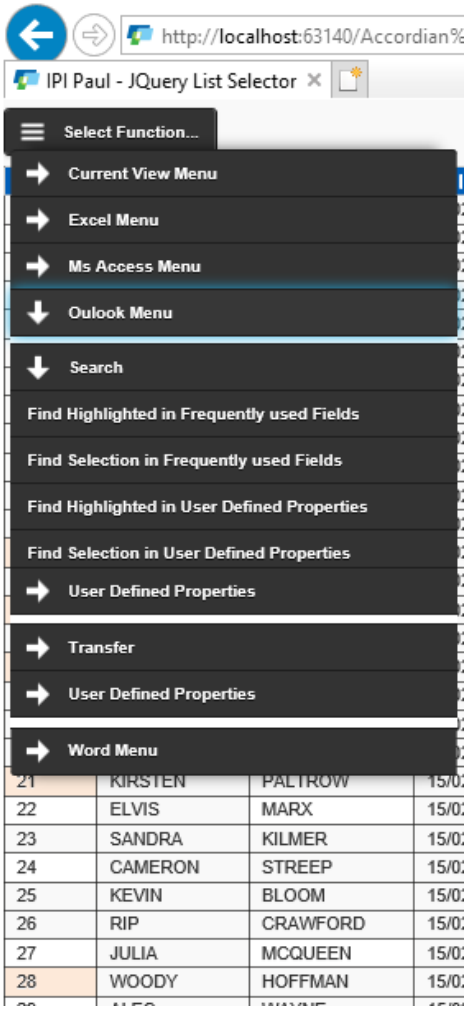


- The Outlook Menu is split in to three sections

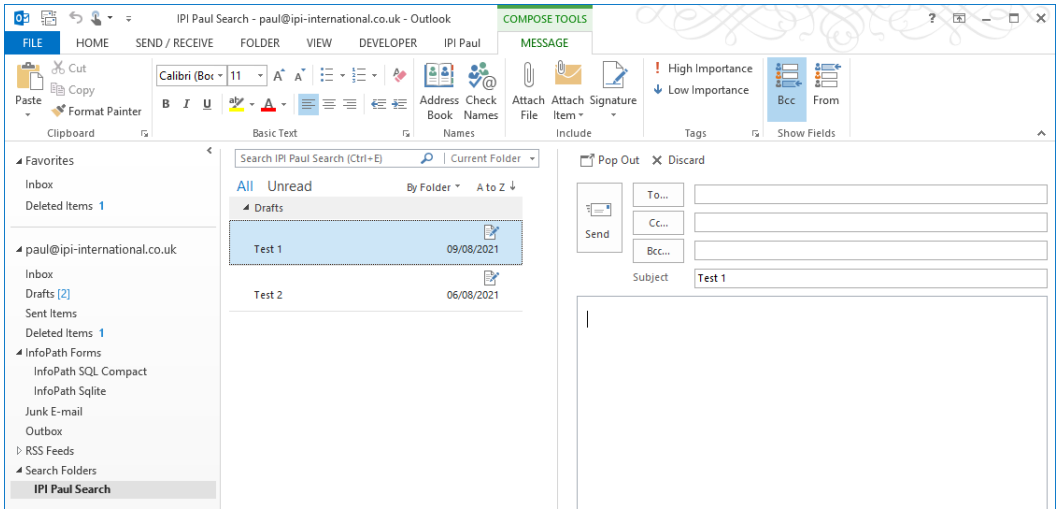


			last_update	ActorName	ActorGender	ActorID	ActorDOB
			2/2006 04:34:33	Penelope Guiness	007-Female	1	15/02/2006 04:34:33
			2/2006 04:34:33	Nick Wahlberg	007-Male	2	15/02/2006 04:34:33
			2/2006 04:34:33	Ed Chase	007-Male	3	15/02/2006 04:34:33
			2/2006 04:34:33	Jennifer Davis	007-Female	4	15/02/2006 04:34:33
			2/2006 04:34:33	Johnny Lollobrigida	007-Male	5	15/02/2006 04:34:33
			2/2006 04:34:33	Bette Nicholson	007-Female	6	15/02/2006 04:34:33
			2/2006 04:34:33	Grace Mostel	007-Female	7	15/02/2006 04:34:33
			2/2006 04:34:33	Matthew Johansson	007-Male	8	15/02/2006 04:34:33
			2/2006 04:34:33	Joe Swank	007-Male	9	15/02/2006 04:34:33
			2/2006 04:34:33	Christian Gable	007-Male	10	15/02/2006 04:34:33
			2/2006 04:34:33	Zero Cage	007-Female	11	15/02/2006 04:34:33
			2/2006 04:34:33	Karl Berry	007-Male	12	15/02/2006 04:34:33
13	UMA	WOOD	15/02/2006 04:34:33	Uma Wood	007-Female	13	15/02/2006 04:34:33
14	VIVIEN	BERGEN	15/02/2006 04:34:33	Vivien Bergen	007-Female	14	15/02/2006 04:34:33
15	CUBA	OLIVIER	15/02/2006 04:34:33	Cuba Olivier	007-Female	15	15/02/2006 04:34:33
16	FRED	COSTNER	15/02/2006 04:34:33	Fred Costner	007-Male	16	15/02/2006 04:34:33
17	HELEN	VOIGHT	15/02/2006 04:34:33	Helen Voight	007-Female	17	15/02/2006 04:34:33
18	DAN	TORN	15/02/2006 04:34:33	Dan Torn	007-Male	18	15/02/2006 04:34:33

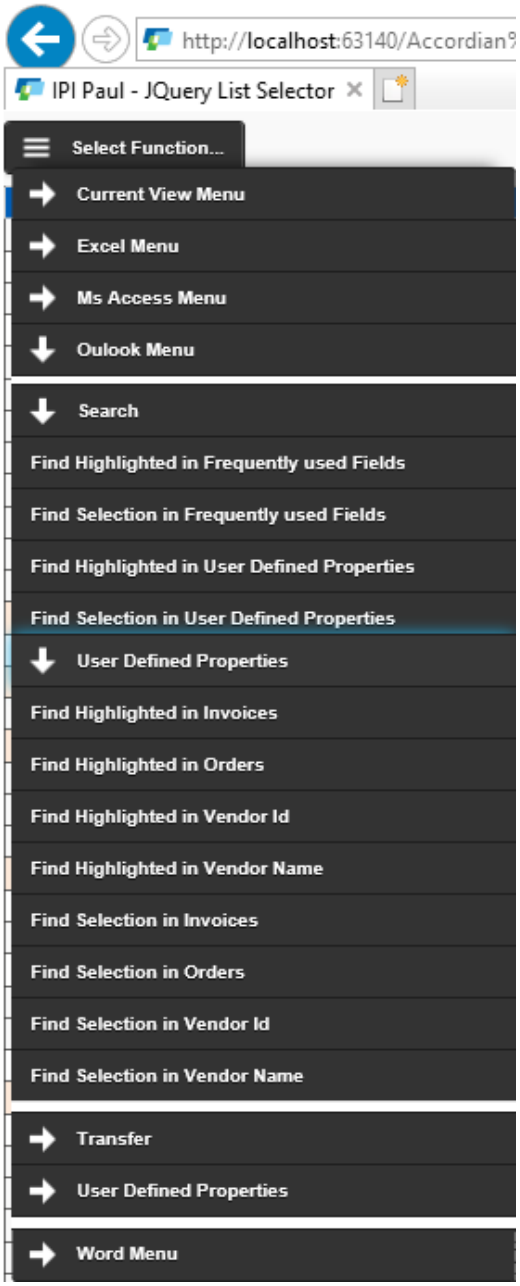
- Search will either search for the partially selected text in a cell or when no particular cell has the focus, all highlighted cells' text. A custom search folder will be generated in Outlook Search Folders for the default account



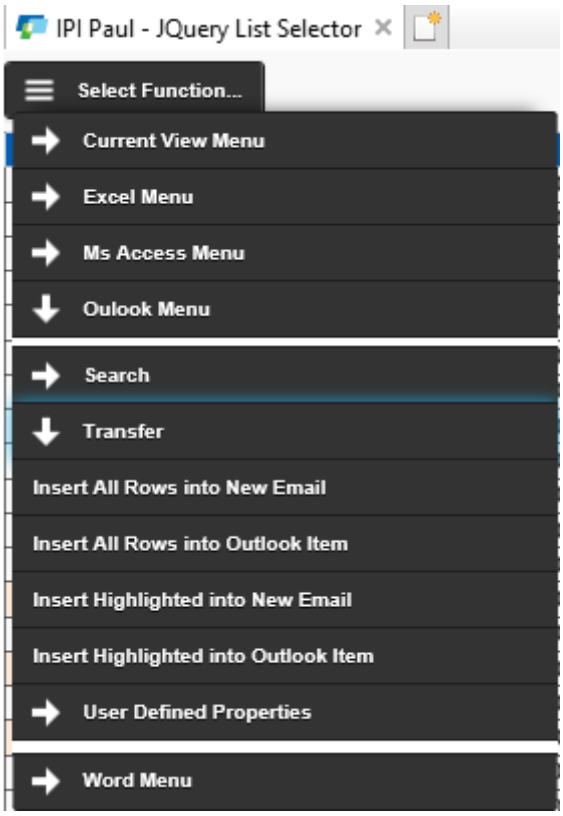
21	KIRSTEN	PALTROW	15/0
22	ELVIS	MARX	15/0
23	SANDRA	KILMER	15/0
24	CAMERON	STREEP	15/0
25	KEVIN	BLOOM	15/0
26	RIP	CRAWFORD	15/0
27	JULIA	MCQUEEN	15/0
28	WOODY	HOFFMAN	15/0

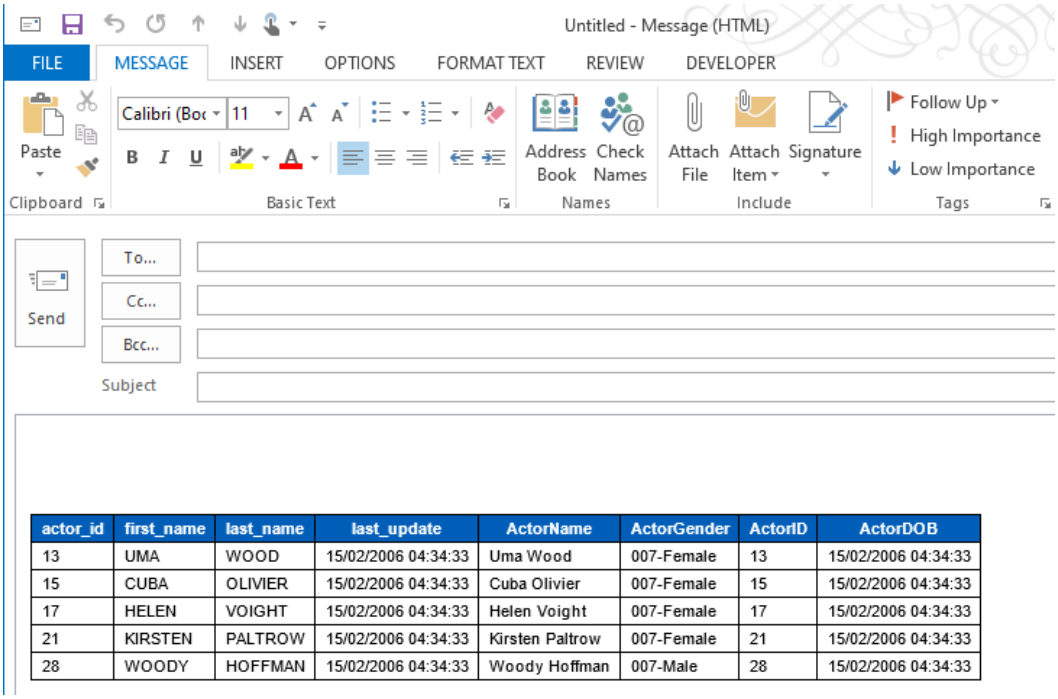


- You can also choose to search only specific User Defined fields



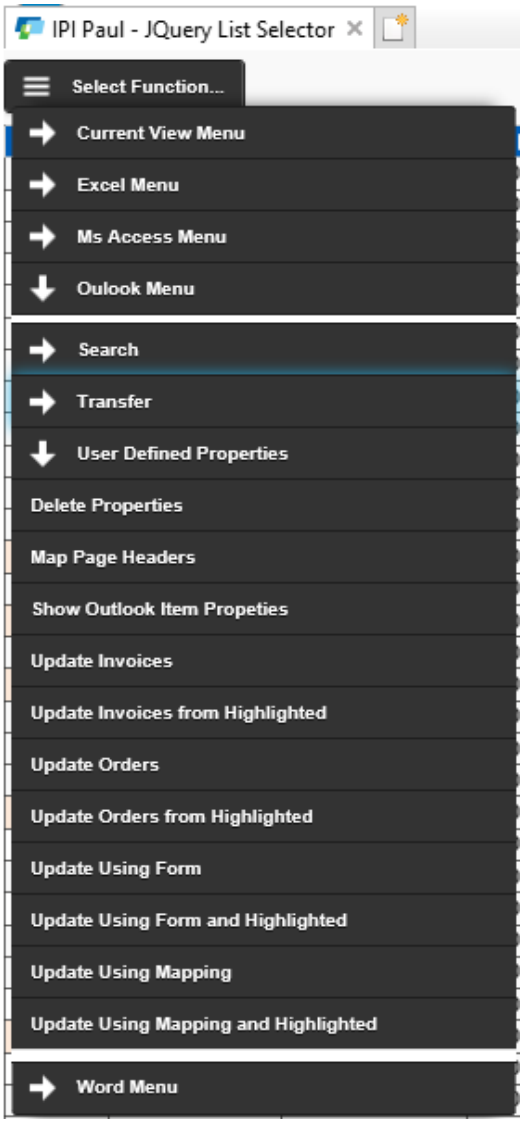
- Transfer, like Excel will populate either an open Outlook item or a new mail item using the styles from the web page. Any highlighting is not transferred and if it is being transferred to an open Outlook Item, the resulting table is placed at the last cursor position clicked on before running the function



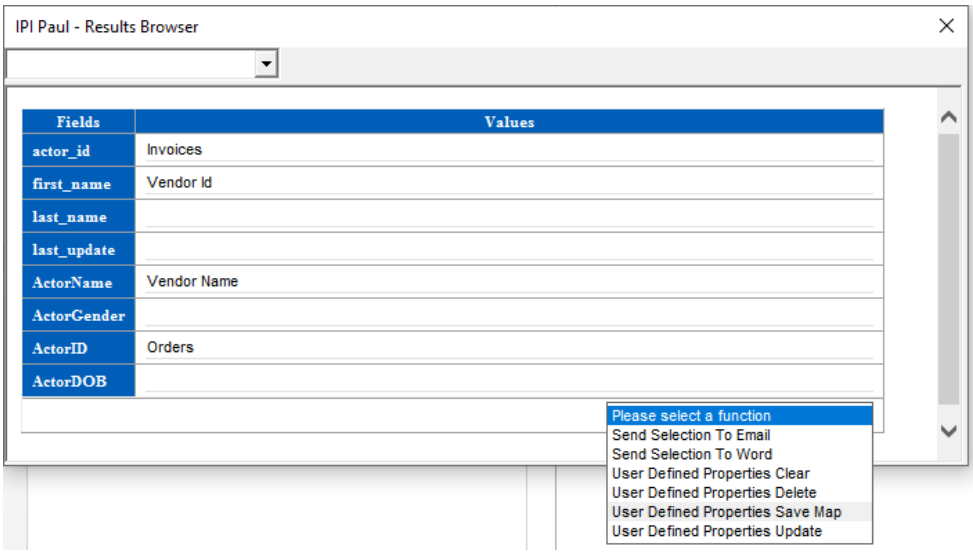


actor_id	first_name	last_name	last_update	ActorName	ActorGender	ActorID	ActorDOB
13	UMA	WOOD	15/02/2006 04:34:33	Uma Wood	007-Female	13	15/02/2006 04:34:33
15	CUBA	OLIVIER	15/02/2006 04:34:33	Cuba Olivier	007-Female	15	15/02/2006 04:34:33
17	HELEN	VOIGHT	15/02/2006 04:34:33	Helen Voight	007-Female	17	15/02/2006 04:34:33
21	KIRSTEN	PALTROW	15/02/2006 04:34:33	Kirsten Paltrow	007-Female	21	15/02/2006 04:34:33
28	WOODY	HOFFMAN	15/02/2006 04:34:33	Woody Hoffman	007-Male	28	15/02/2006 04:34:33

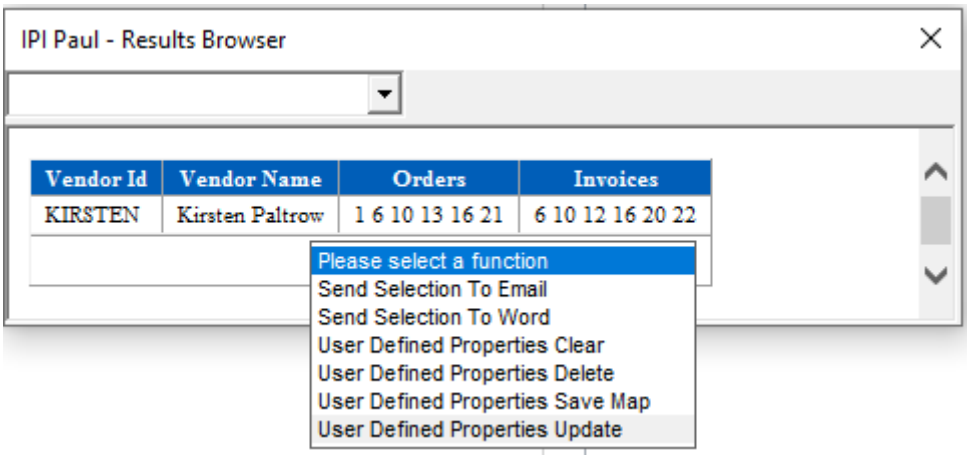
- User Defined Properties works with which ever was selected last, a range of items in the Outlook Explorer window or an open Outlook item



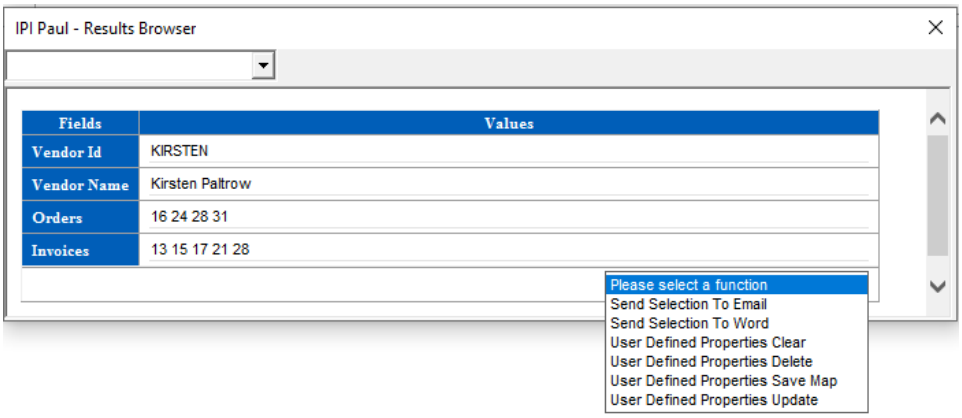
  - Map Page Headers generates a pop-up VBA Userform with WebBrowser page to specify which fields of the JQuery page should be matched to User Defined Fields in Outlook. Please note that fields with the same name in the JQuery will be remapped as this is not a complex mapping table



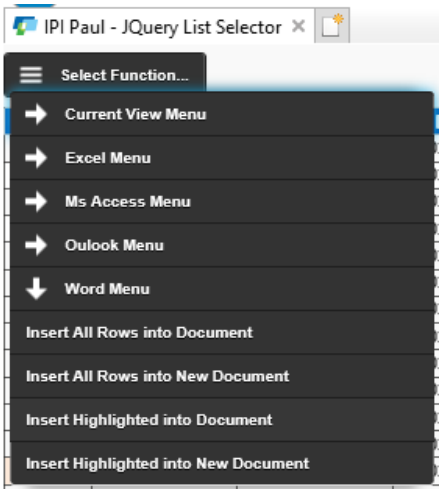
- Show Outlook Item Properties is also a VBA Userform, just listing the properties in a table format. The Selection options also give you the option to clear, delete or update the user defined properties of any outlook item or group of items your select before choosing an option



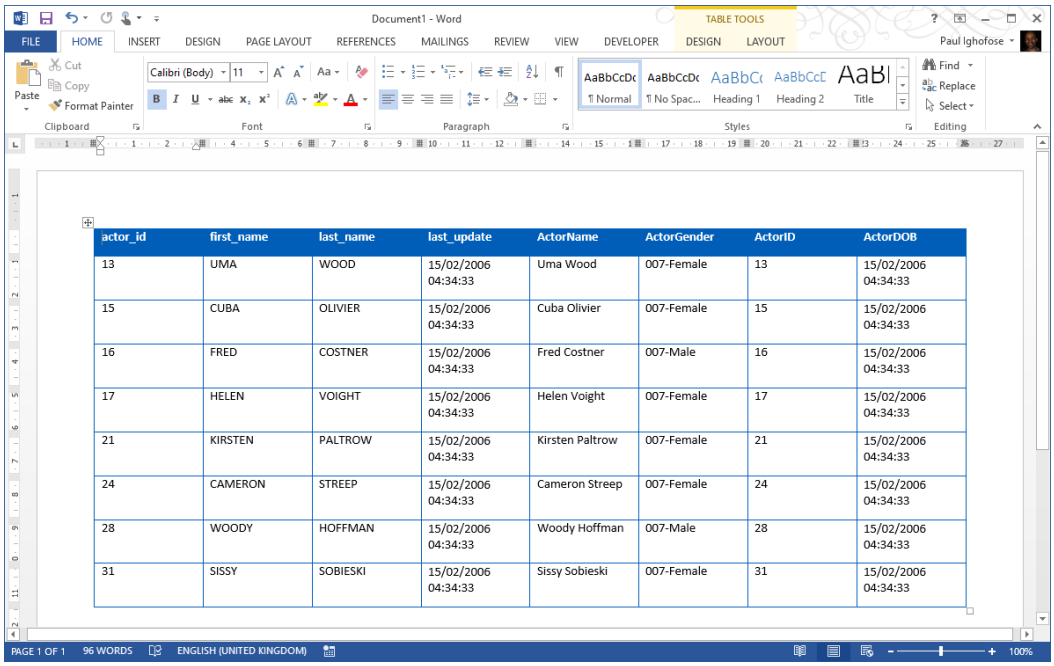
- Update Using Form will generate a pop-up without any fields populated and Update Using Form and Highlighted will pull highlighted entries in to relevant fields of the form using the current header mapping and the Vendor ID and Name of the last table cell selected in the JQuery page. Here you also have the option to amend the entries in the input boxes in the Values column



- Word Menu like Excel is not the fastest at transferring the data, but is fit for purpose and uses the styles of the JQuery page



- Inserting in to a new Word document will put the page in Landscape orientation



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17	HELEN	VOIGHT	15/02/2006 04:34:33	Helen Voight	007-Female	17	15/02/2006 04:34:33
21	KIRSTEN	PALTROW	15/02/2006 04:34:33	Kirsten Paltrow	007-Female	21	15/02/2006 04:34:33
24	CAMERON	STREEP	15/02/2006 04:34:33	Cameron Streep	007-Female	24	15/02/2006 04:34:33
28	WOODY	HOFFMAN	15/02/2006 04:34:33	Woody Hoffman	007-Male	28	15/02/2006 04:34:33
31	SISSY	SOBIESKI	15/02/2006 04:34:33	Sissy Sobieski	007-Female	31	15/02/2006 04:34:33