

Spot the Difference: New Style MsgBox in Access

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The Problem

- By default, Access warns about record changes, document deletions and action queries
- These warnings can be useful and save the need to code warnings in the application for every eventuality
- A mixture of application dialog boxes and Access dialogs used to look OK . . .
... but now creates an incongruous UI
- ❖ DEMO: frmDelConfirm

History Of MsgBox With Access

- Earlier versions of Access/Office used the standard VBA/Windows MsgBox function
- Access has always used a custom format "Bold Heading@Line 2@Line 3"
- This undocumented feature allowed the custom Access MsgBox() to be used via `Eval("MsgBox()")`
- Feature was not maintained in later versions of Office
Still available but uses old Windows dialog style
- DEMO: `Eval("MsgBox")`

Using a VBA Function Name to Override VBA With Your Own Code

- Access treats calls to VBA functions as standard function calls.
 - ❖ First looks in the current database
 - ❖ Then searches References, in the order defined
 - ❖ The VBA library is a mandatory reference and is always first
- If you define any function in your application with the same name as any VBA function, it overrides VBA and uses your function instead
- Use carefully – it allows you to modify the behaviour of VBA itself !
- I only use it in the following cases:
 - ❖ Override VBA Round(), to use "schoolbook" rounding instead of "bankers" rounding.
 - ❖ Override MsgBox(), to use default Title and timeout support

Old Custom MsgBox Code

```
Option Compare Database
Option Explicit
```

```
Public MsgBoxTimeout As Long
```

```
Public Function MsgBox(ByVal Prompt, Optional ByVal Buttons As VbMsgBoxStyle = vbOKOnly,
    Optional ByVal Title, Optional ByVal helpfile, Optional ByVal Context) As VbMsgBoxResult
```

```
    On Error Resume Next
```

```
    If Title = "" Then Title = CurrentDb.Properties("AppTitle")
```

```
    If MsgBoxTimeout = 0 Then
```

```
        MsgBox = VBA.MsgBox(Prompt, Buttons, Title, helpfile, Context)
```

```
    Else
```

```
        MsgBox = TMsgBox(Prompt, Buttons, Title, MsgBoxTimeout)
```

```
    End If
```

```
End Function
```

```
Function MsgboxTest()
```

```
    MsgBox "Hello world"
```

```
End Function
```

Compatibility Issues and Limitations

➤ Backwards compatibility:

- ❖ New function needs to serve existing parameters
- ❖ New function needs to work with strings defined in existing code

➤ Forwards compatibility:

- ❖ Could add optional parameters
- ❖ Could add new interpretation of existing parameters
- ❖ Could add new features
- ❖ **BUT:** Any changes are a one-way trip!

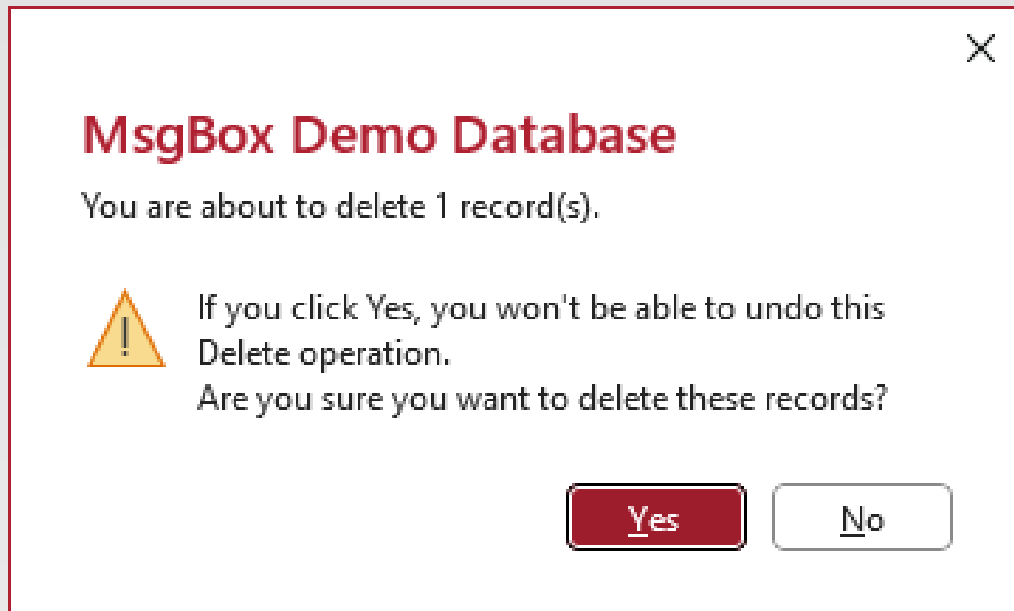
➤ My objective is to maintain backwards *and* forwards compatibility.

- ❖ I don't want to invest heavily in new features that may not be easy to maintain in the medium/long term.

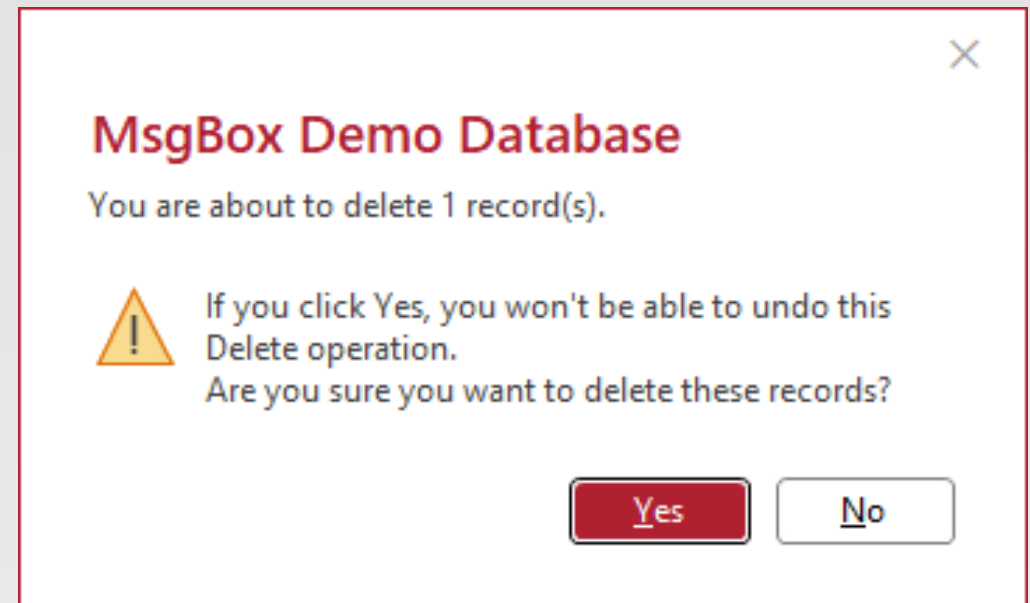
Competition : Spot The Difference 1

- Spot a difference of more than 4 pixels => have tonight's entrance fee refunded!
- Delete table. Attempt to delete record from Table2

Access



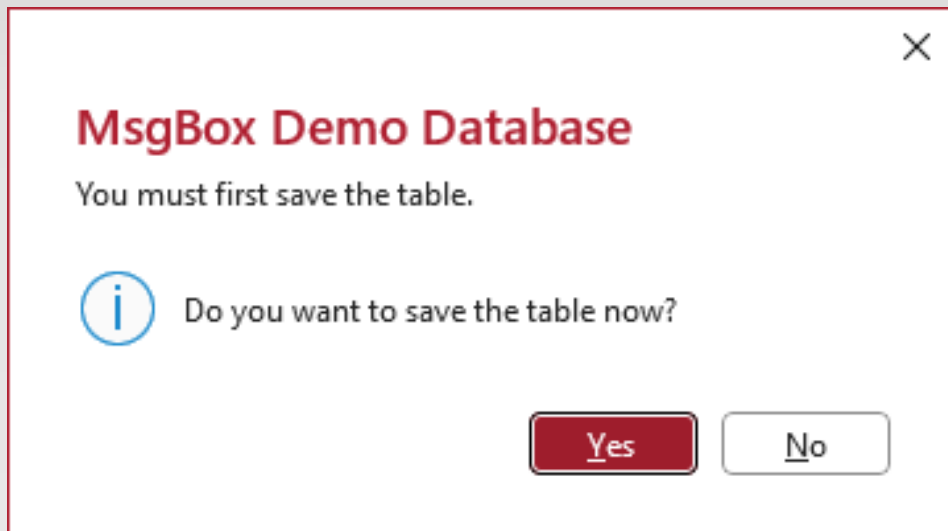
MsgBox



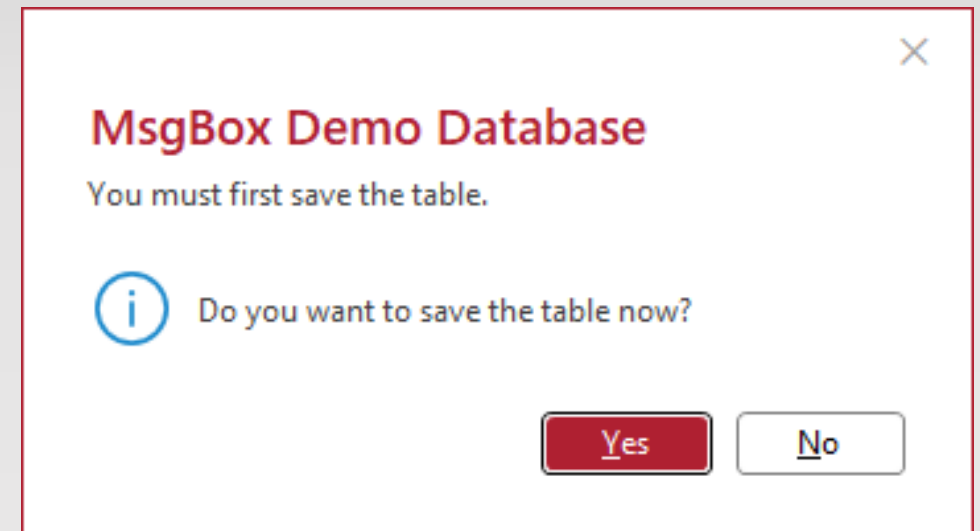
Competition : Spot The Difference 2

- Save table. Attempt to add string field2 to Table1, switch to table view

Access



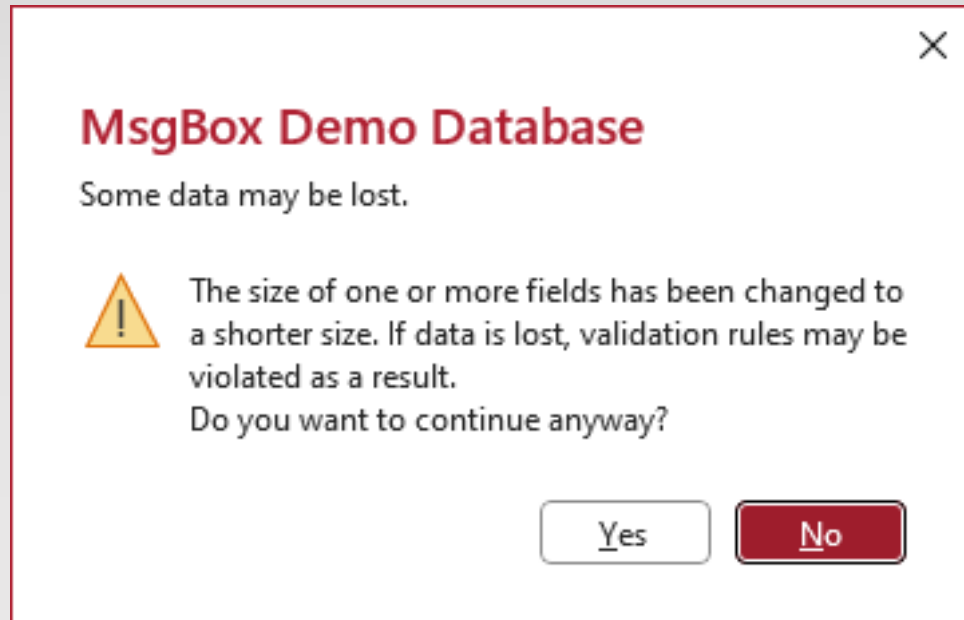
MsgBox



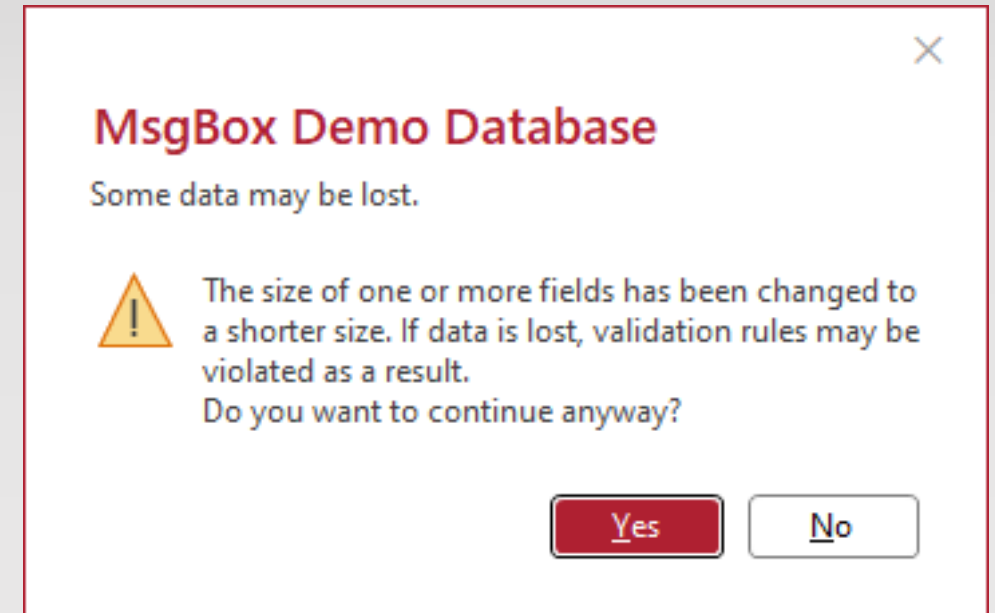
Competition : Spot The Difference 3

- Change field. Attempt to shorten field2 in Table1

Access



MsgBox



The New MS Fluent UI Icons

- Standard icons have changed

Old:



New:



- The Access warning icon is customised – not the standard Windows UI icon.
- No longer bitmaps. Now stored and rendered from vectors
- Standard size is now 28px rather than 32px
- Standards: <https://fluent2.microsoft.design/iconography>
- Download: <https://github.com/microsoft/fluentui-system-icons> (134MB/140K files!)
- Save icons as 28px PNG files and show as clipped.
 - ❖ Better rendering than saving a larger image and showing as zoomed.
 - ❖ DEMO: frmlcons

Message Beep API

- Beeps are actually associated with the icons
- Configured in Sounds Control Panel.
- No sound for Question by default.

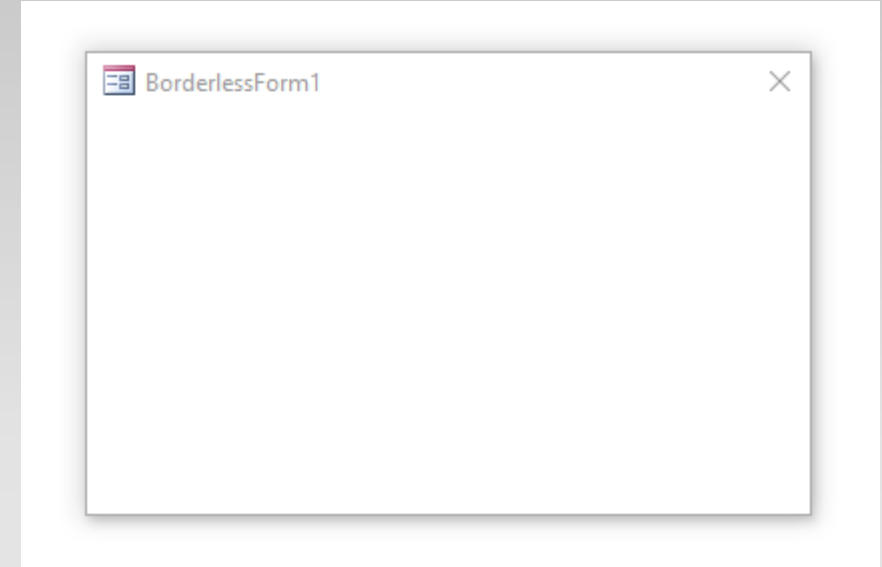
The Title Parameter

- Defaults to AppTitle property of database
- If no AppTitle, title defaults to "Microsoft Access"
- This is the same behaviour as Access
- ❖ DEMO: Title

Borderless Forms 1

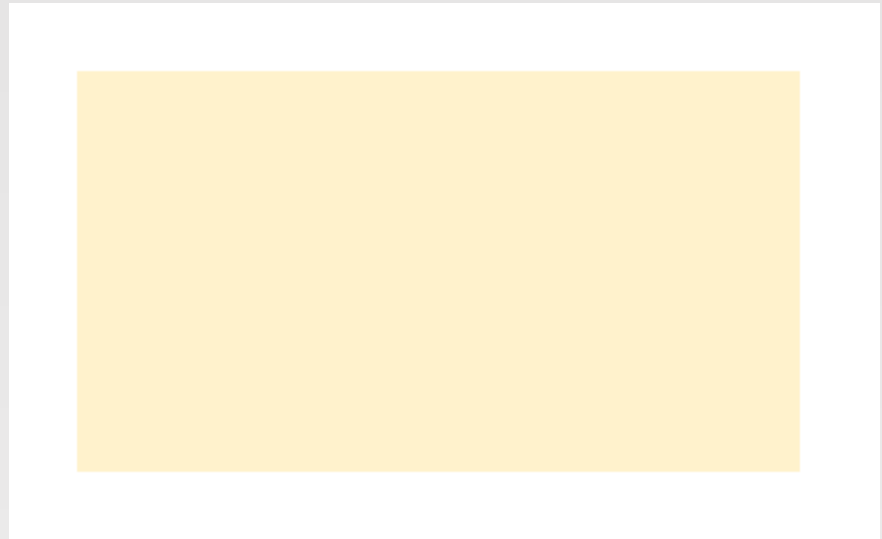
➤ Standard Dialog Box:

- ❖ Fixed grey border
- ❖ Caption/title bar and control
- ❖ Shadow drawn as standard by Windows



➤ Borderless form:

- ❖ No border
- ❖ No caption/title bar – can't be dragged
- ❖ No shadow (drawn by Windows as part of border)



Borderless Forms 2

➤ Red rectangle as border:

- ❖ Rectangle control as "border"
- ❖ 1 pixel at Left, Top and Bottom, flush at right.
- ❖ Nudge 1 pixel in design view with Ctrl-<arrows>
- ❖ Still can't be dragged
- ❖ No shadow



➤ modDragForm

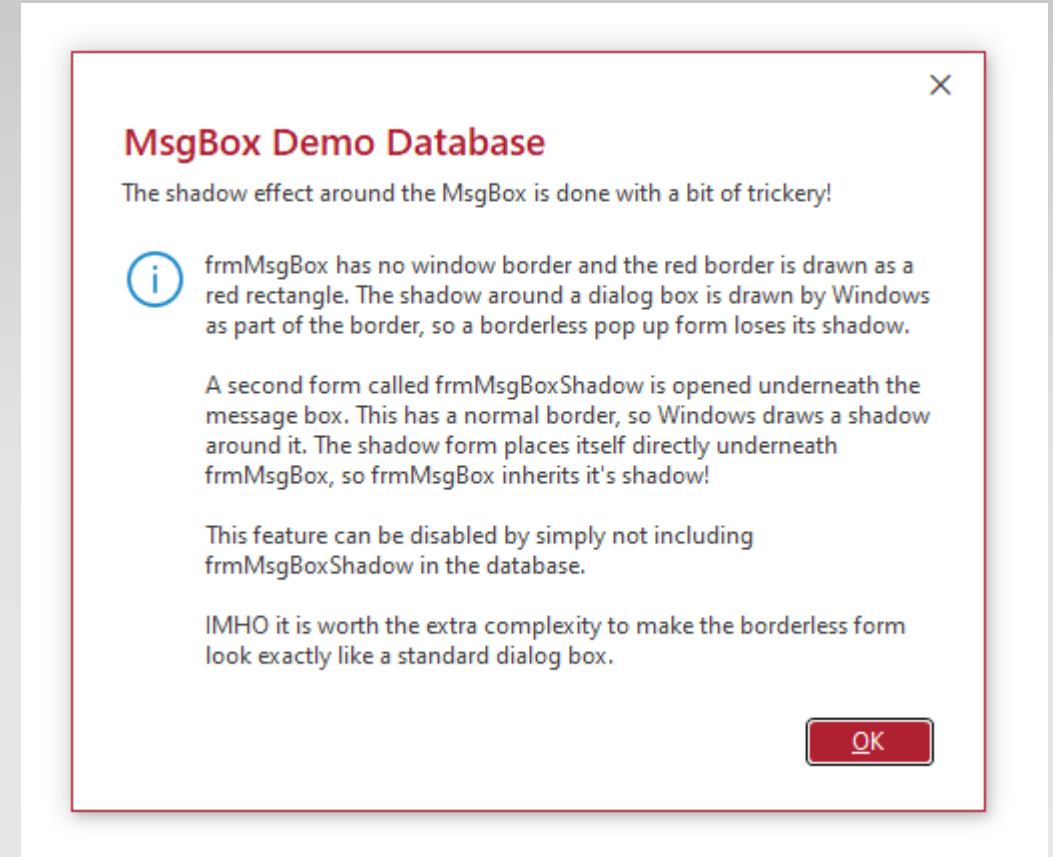
- ❖ Idea courtesy of **Colin Riddington**
- ❖ Simple API call on Mouse Down passes control to Windows
- ❖ Windows handles the dragging
- ❖ Control comes back to application on Mouse Up

The Shadow Form Trick

- Uses a second form - frmMsgBoxShadow
- This is a normal popup dialog form, with caption/title bar and shadow
- Blank caption, not buttons so appears as blank form with shadow
- Parent opens it after resizing and centering itself, but before going visible
 - ❖ `DoCmd.OpenForm "frmMsgBoxShadow", , , , , acHidden, "frmMsgBox"`
- Hooks parent's OnClose and OnResize events
- Sizes and positions itself immediately below parent form, then makes itself visible
- Short pause, then makes itself visible
 - ❖ The short pause changes annoying flicker into a smooth reveal
- The parent form "inherits" the shadow!

The Shadow Form Trick 2

- Uses Timer event and parent's OnResize event to track movement of parent
- Timer event is throttled to save resources
- Uses parent's OnClose event to close with parent
- ❖ DEMO: Wait for Me!



Mimicking the Buttons

- Buttons have a “double” border to convey both focus and default option
- Standard CommandButton border is too thin or too thick
 - ❖ Use second larger button underneath main button
- Standard focus shows dotted border
 - ❖ Use GotFocus event to shift focus to hidden textboxes
- The HoldFocus control technique

Enhanced MsgBox Formatting

- Supports Access "Line 1@Line 2@Line 3" format
- Line 1 is Heading, Line 2/3 is Prompt
- Interprets only the first two @ characters
 - ❖ Allows unlimited lines and subsequent @ characters (e.g. email addresses)
- Can be defined as "Heading@@Prompt"
 - ❖ Much easier to code:

```
strPrompt = "Heading text.@" _  
            & "Prompt text."  
            & vbCrLf & vbCrLf & "More prompt text."
```

Help And Hyperlinks

- Supports any `http:\\` or `https:\\` hyperlink
- Supports legacy .CHM help files
- ❖ DEMO: Help and hyperlinks

Textbox Resizing

- Original code by **Stephen Lebens**: <https://www.lebens.com/>
- TextBoxSize() uses API DrawText() function to calculate the size required to draw text
- Modified to take into account control margins, border width, and scrollbars
- TextBoxGrowth() returns size (in twips) that control must grow/shrink to fit its text
- Use code to move/size adjacent controls by same amount
- Always resize the form before control (when growing) or after control when shrinking.
- CanShrink and CanGrow for forms!
- DEMO: Resizing

The Lorem Ipsum Resizing Trick

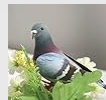
- MsgBox resizes to fit Title, Heading and Prompt text
- Expands to 80% of screen height/width
- Maintains the aspect ratio of the screen
- Grows in 1 inch chunks
- Shrinks and centres a single line of text
- Stops getting wider if it reaches a "natural width"
- Enables scrollbar if text still too big – no truncation

Clipboard and RTL Support

- **Ctrl-C** or **Ctrl-Insert** copies the MsgBox text to the clipboard
- Supports Right justification and RTL (right-to-left) reading order

Timers, Rich Text and More

- The Timer event could be used for timeout support
- Rich Text support
 - ❖ No longer compatible with Access MsgBox UI, but could be limited to subtle support for bold, italic, hyperlinks and special characters
 - ❖ "Pidgin HTML" for easy coding (recognise tags but don't require them)
 - ❖ HTML splitting challenges
 - ❖ Text resizing challenges
- A matching InputBox() function?



I said Pidgin HTML, not Pigeon!