

Forms

INFO/CSE 100, Autumn 2004
Fluency in Information Technology

<http://www.cs.washington.edu/100>

Readings and References

- Reading
 - » *Fluency with Information Technology*
 - Chapter 15, Case Study in Database Design
- Reference
 - » MS Access Help files
 - keyword “form”

Views as Tables

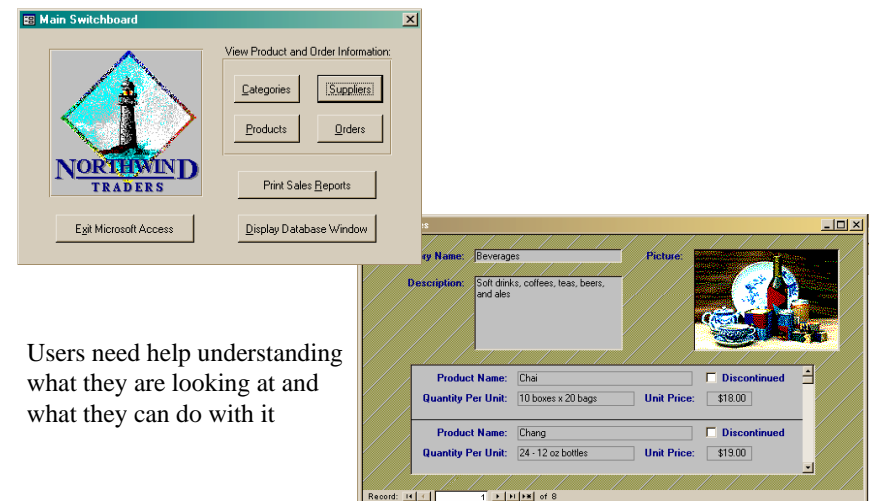
- Recall that the result of a query is a table
- We have been presenting the table to the user in simple tabular form

ISBN	Title	Price	Name
1-2	Your Reader	\$12.00	Another Press
2-2	His Reader	\$25.00	Another Press

Name	ISBN	Title
Alex	1-1	My Reader
Alex	1-2	Your Reader

ISBN	Title	Price	authors.Name	publishers.Nam
1-1	My Reader	\$10.00	Alex	A Press

But tables are not pretty ...



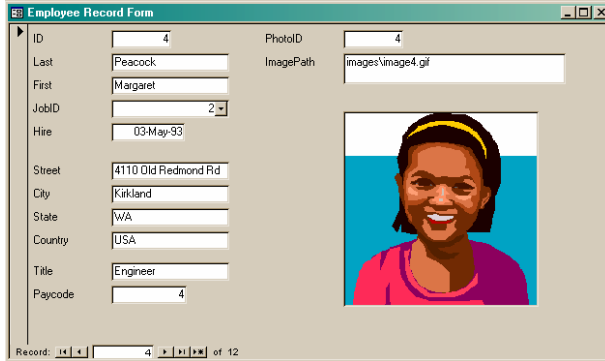
Users need help understanding what they are looking at and what they can do with it

Front end and Back end

- Front end
 - » We present the data to the user with some sort of Graphical User Interface
 - Simple tabular display as we have been doing
 - MS Access provides *Forms* and *Reports* for GUIs
 - Web pages
- Back end
 - » The database stores the data in tables
 - » We use queries to construct new "virtual" tables

Forms

A form is primarily used to enter or display data in a database

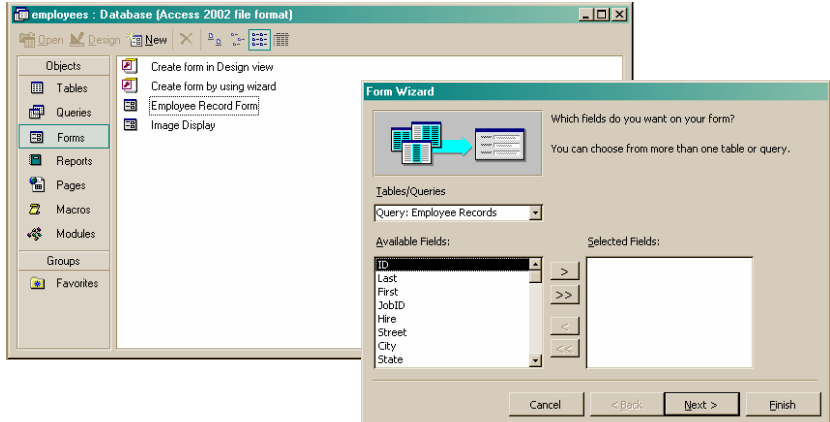


The designer controls what it looks like and how it works, so it can be tailored to specific needs

A Form is just a Face for a table

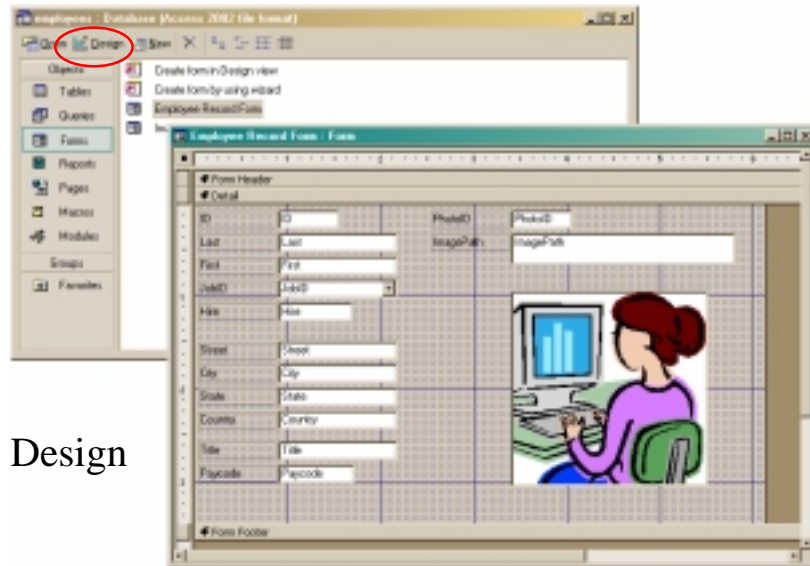
- The form lets the designer arrange the data, label it, provide some control over events, etc
 - » the **presentation**
 - » multiple presentations are possible depending on the specific needs of each user
- Underlying data comes from a table or a query
 - » the **content**
 - » single source of data ensures consistency

How does a form get built?



The Form wizard can help get you started.

But you probably want to tweak it ...



Design

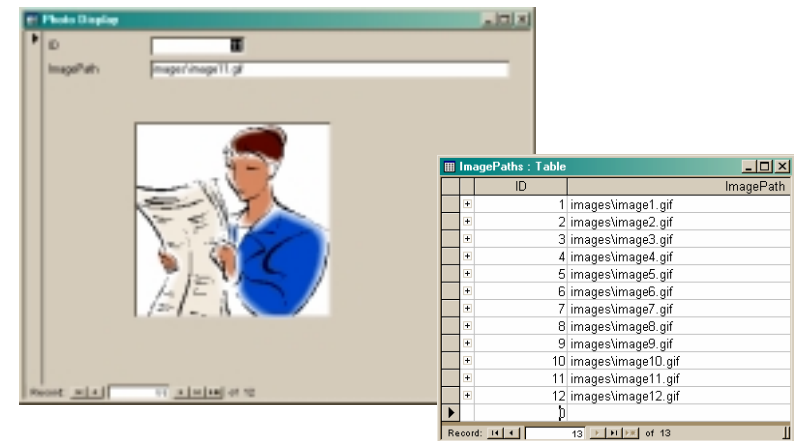
Explore the Design capabilities

- Properties of the various controls can be set
- Controls and labels can be moved around
- Images and patterns can be applied
- Event handlers can be written just like on HTML pages with onClick, etc
 - » these are written in Basic, not JavaScript

Displaying an image

- In general, images are not stored directly in the database
 - » This would mean copying the image and storing it as part of the database file
 - The resulting database is very big
 - The image files are not available outside of the database program
- But we can easily store a link to the image file
 - » a text field containing the path to the image file
 - » use the path to find, load, and display the image

ImagePaths table and simple display form



To display a linked image

- Create a form based on a table or query that includes the path attribute
 - » include a text field on the form to hold the path
- Create an image control on the form
 - » this is where the image is actually displayed
- Create event handlers to load the image when something changes
 - » associated with the form event OnCurrent
 - » associated with the text field event AfterUpdate

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text field that holds the value of the primary key for the ImagePaths table, the ID attribute

text field that holds the value of the attribute ImagePath

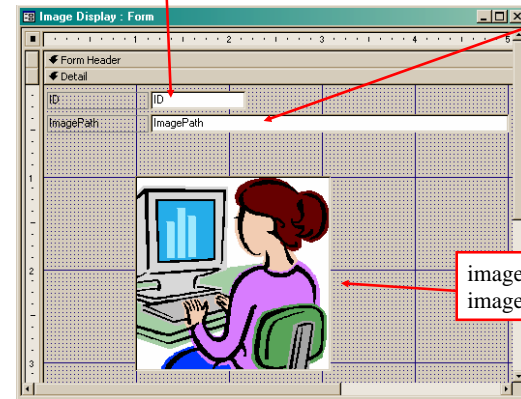
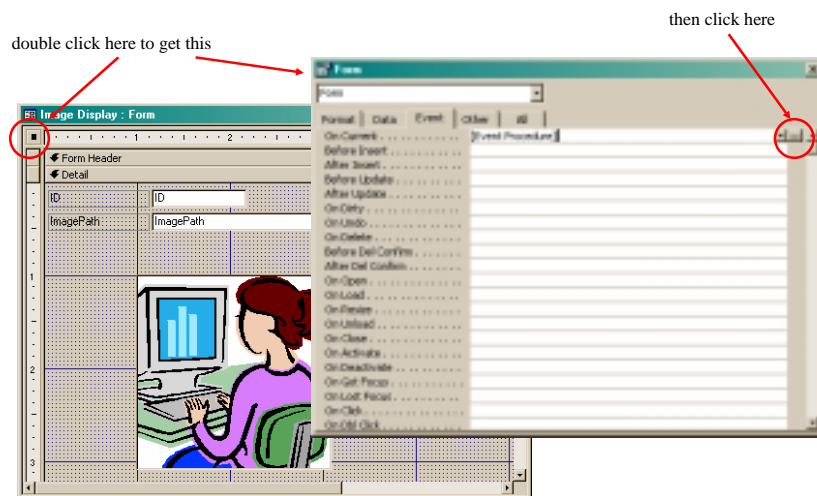


image field that displays the image pointed to by ImagePath

How do we change the image? Event Handlers



OnCurrent event handler for the form

```

employees - Form_Image Display (Code)
Form: Current
Option Compare Database

Private Sub Form_Current()
    If IsNull(Me![ImagePath]) Then
        Exit Sub
    End If

    If (IsRelative(Me![ImagePath]) = True) Then
        Me![ImageFrame].Picture = CurrentProject.path & "\" & Me![ImagePath]
    Else
        Me![ImageFrame].Picture = Me![ImagePath]
    End If
End Sub

Private Sub ImagePath_AfterUpdate()
    If IsNull(Me![ImagePath]) Then
        Exit Sub
    End If

    If (IsRelative(Me![ImagePath]) = True) Then
        Me![ImageFrame].Picture = CurrentProject.path & "\" & Me![ImagePath]
    Else
        Me![ImageFrame].Picture = Me![ImagePath]
    End If
End Sub

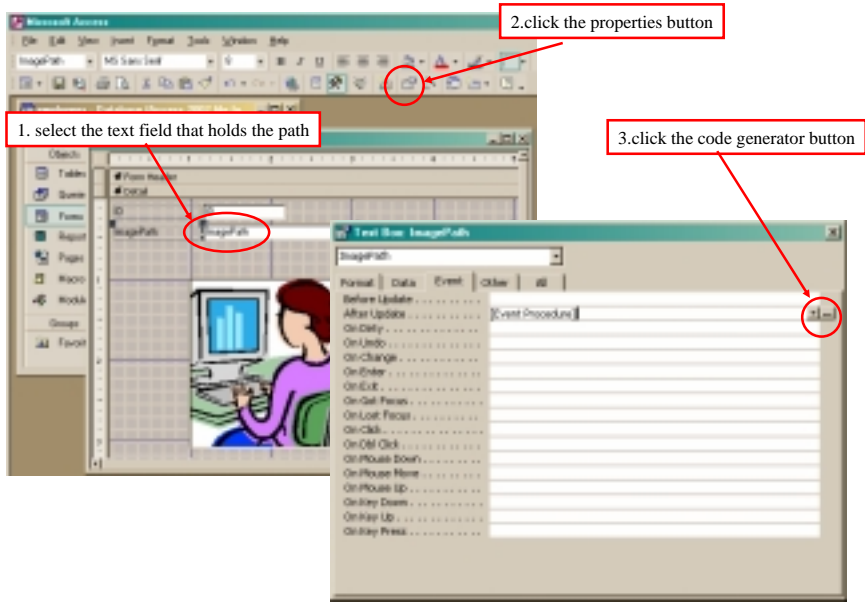
Function IsRelative(fName As String) As Boolean
    ' Return false if the file name contains a drive or UNC path
    IsRelative = (InStr(1, fName, ":") = 0) And (InStr(1, fName, "\\") = 0)
End Function
    
```

ImagePath is the name of the text field that holds the path to the image on your form.
ImageFrame is the name of the Image control that displays the image on your form.

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AfterUpdate event handler for the field

ImagePath is the name of the text field that holds the path to the image on your form.

ImageFrame is the name of the Image control that displays the image on your form.

```

employees - Form_Image Display [Code]
ImagePath
Option Compare Database
Private Sub Form_Current()
End Sub

Else
    Me![ImageFrame].Picture = Me![ImagePath]
End If
End Sub

Private Sub ImagePath_AfterUpdate()
[If IsNull(Me![ImagePath]) Then
    Exit Sub
End If

If (IsRelative(Me!ImagePath) = True) Then
    Me![ImageFrame].Picture = CurrentProject.path & "\" & Me![ImagePath]
Else
    Me![ImageFrame].Picture = Me![ImagePath]
End If

End Sub

Function IsRelative(fName As String) As Boolean
    ' Return false if the file name contains a drive or UNC path
    IsRelative = (InStr(1, fName, ":") = 0) And (InStr(1, fName, "\\") = 0)
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