

Visual Basic

Programming the Future

An Unlikely Success Story

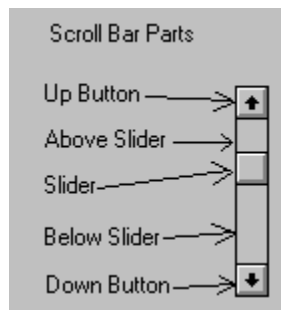
- ◆ Basic: The Epitome of a “Toy” Language
- ◆ GUI Programming: A Programmer’s Nightmare
- ◆ Custom Controls: Do-Dads and Useless Trinkets
- ◆ Database Programming: Complicated, Time-Consuming, Expensive

The “Basic” Solution

- ◆ The Dialog Box was Elevated from Second Class Status
- ◆ The Visual Programming Interface Allowed Controls to be *Drawn* rather than *Coded*
- ◆ A “Program” Now Consists of Several Drawings, Called *Forms*, and Some Basic Code

Standard Controls

☐ Check1 ☒ Check2
☐ Check3D1 ☒ Check3D2



Print Destination

☐ Default Printer
☒ Window (Preview)
☐ File

Relationship

Daughter	↓
Daughter	↑
Child	
Sngl Parent	
Mother	
Father	
Grand Parent	
Grand Mother	
Grand Father	↓

POST

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Control Interface

- ◆ Properties: Variables Known to the Control Which Affect Its Appearance
 - Text
 - Border
- ◆ Events: Asynchronous Function Calls in Response to Changes in The Interface
 - GotFocus
 - Changed
- ◆ A Few Standard Functions

Visual Basic Custom Controls

- ◆ Contained in A Separate Function Library
- ◆ Written in C (Usually)
- ◆ Responds to Reading & Writing Properties
- ◆ Issues Events
- ◆ May Process Standard Function Calls

Database Functionality

- ◆ A New *Data-Control* was Added
- ◆ A Data-Control Represents a Single Relational Table (Queries Included)
- ◆ Certain Other Controls Can be *Bound* to Database Fields Through the Data Control
- ◆ Changing The Contents of a Data-Aware Control Changes the Database

The Crucial Point

- ➡ The Data-Control Supports Almost All Existing Database Systems, *without additional software*

The Grid Control

<i>Title</i>	<i>First Name</i>	<i>Middle Name</i>	<i>Last Name</i>	<i>Jr/Sr</i>	<i>NickName</i>	<i>Sex</i>	<i>Member</i>	<i>A</i>
Mr.	Johann	Sebastian	Bach		Johann	M	<input checked="" type="checkbox"/>	A
Mrs.	<input type="checkbox"/> Maria	Theresa	Bach		Mrs. Bach	F	<input checked="" type="checkbox"/>	A
Mr.	CPE		Bach		Ole Hogg	M	<input checked="" type="checkbox"/>	A
<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>

Ideal for Data-Base Support, BUT

It IS NOT Data-Aware

The Avalanche Begins

- ◆ 3rd-Party Developers Create Various Data-Aware Grids
- ◆ Some Developers Realize that a Grid Looks Like a Spreadsheet -- Why Shouldn't it Act Like One?
- ◆ The Text Control Acts Like a Minature Text Editor -- Why Shouldn't it Act Like a *Real* Text Editor?

Current Custom Controls

- ◆ Controls Reproduce the Functionality of Virtually All Existing PC Applications
- ◆ Distribution is, For the Most Part, Royalty-Free
- ◆ Visual Basic has become THE Preferred Implementation for DB Applications
- ◆ Proliferation of Controls has Extended VB Programming to Many Other Areas

Examples of Controls

- ◆ Full-Featured Word Processors
- ◆ Excel Compatible Spread Sheets
- ◆ Full-Featured Modem Communications
- ◆ Voice-Mail Systems
- ◆ Image Editors
- ◆ Object-Oriented Grapics Drawing
- ◆ Web Browsers
- ◆ FAX Interfaces
- ◆ Hundreds of Others

A Brief History of Programming

- ◆ Block-Structured Languages were Supposed to Revolutionize Programming
 - They Didn't
- ◆ Top Down Structured Programming was Supposed To Revolutionize Programming
 - It Didn't (Well, Structured Programming Helped!)
- ◆ Object-Oriented Languages were Supposed to Revolutionize Programming
 - They Didn't

Current Events

- ◆ Visual-Basic wasn't Supposed to Revolutionize Anything
 - It Did
- ◆ VB Enables one to Program “Far Above the Statement Level”
 - Nothing Else Really Worked
- ◆ VB Allows Code Reuse
 - Nothing Else Really Does
- ◆ VB Reduces Programming Time From Days to Minutes
 - Anyone Else Who Claims This is Lying

Win FHDL

- ◆ Human Interface was Developed Entirely With Custom Controls
- ◆ The Parser, Simulator, Macro Processor, PLA Processor, and ROM Processor are Locally Developed Custom Controls
- ◆ Several Commercial Custom Controls are Used in the Interface

You CAN Try This At Home!

- ◆ The Locally Developed Custom Controls Included in Win FHDL are *Developer Versions*
- ◆ You Can Use These Controls to Develop Your Own FHDL User Interface
- ◆ Source Code is Available on Request
- ◆ Although Win FHDL Source Code is Available, It is Useless without the Add-Ons