

Introduction to Visual Basic, Applications Edition

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Prerequisites for presentation:

Knowledge of Visual Basic 3

Name of demo code ZIP file:

VBITVBAI.ZIP

Introduction to Visual Basic, Applications Edition

Quick History of Visual Basic

Where VBA fits now

As hosted by Excel 5

As hosted by Project

Where is Visual Basic going?

Presentation Plan

**The Excel Environment for VB3
Programmers**

VBA Compared to VB3

Object Models for VB3 Programmers

Writing VBA Code

The Excel Environment for VB3 Programmers

Excel Workbooks

Tabbed Dialogs

Macro Recorder

Object Browser

Modules

DialogSheets

VB Toolbar

Debug Window

VBA Compared to VB3

New Additions

VB Engine in C++, 32 Bit, NT, Mac

Linear Editor vs. Procedure Editor

Line Continuation character

For Each ... Next

With ... End With

Pre-defined constants

Data Types - Boolean, Date, Object

Variants contain object, array, error subtypes

Dynamic arrays & Objects in User Defined data types

Named, Optional, ParamArray Parameters

TypeName, ByRef

VBA Compared to VB3

Missing in Action

No EXE's

No Forms Module

No VBX Custom Controls

No Access Engine for database access

No hWnd Property

No editing code during debugging

Maximum textbox and cell length = 255

VBA Compared to VB3

Compatibility with VB3

Don't use the new stuff!

Create the XL Object

```
Dim APPXL as Object, XL as Object
```

```
Set APPXL = GetObject("Excel.Application")
```

```
Set XL = APPXL.Application
```

Use brackets for Close, Show, AddItem, RemoveItem

```
Workbooks(1).[Close]
```

Object Models for VB3 Programmers

Properties vs. Methods

Collections vs. Containers

VCR Object Model

Visual Basic Object Model

Excel Object Model

Project Object Model

VCR (the main "root" object)

Buttons() (collection of button objects)

PlayButton (a button object)

RecordButton

StopButton

Channels()(collection of channel objects)

Channel1 (a channel object)

Channel2

Clock (a clock object)

Time (a time object)

Programs() (program objects)

Sample VCR Properties & Methods

VCR.Clock.Time.CurrentTime = 10:00 AM

VCR.Clock.Time.CurrentDate = 2/5/94

VCR.Clock.Program(1).StartTime = 7:00 PM

VCR.Clock.Program(1).EndTime = 8:00 PM

VCR.Clock.Program(1).StartDate = 2/7/94

VCR.Clock.Program(1).Channel = 10

VCR.Eject

VCR.Play

Sample VCR Program

Sub RecordMovie()

VCR.Channel1.Channel = 17

VCR.Channel1.Name = "HBO"

While VCR.Clock.Time > 7:00 PM and VCR.Clock.Time <
9:30 PM

 If VCR.TapeIn = TRUE then

 VCR.Channels("HBO").Select

 If Not VCR.Recording then VCR.Record

 Else

 VCR.Display.Text = "Insert Tape!"

 VCR.Beep

 EndIf

Wend

End Sub

Visual Basic Object Model

App

Clipboard

Debug

Printer

Screen

Visual Basic Object Model

Application Object

App

Form

Controls()

Database

RecordSets

Table

Fields

Index

Dynaset

Fields

Snapshot

Fields

TableDefs

Indexes

QueryDef

Excel Object Model

Application

Workbook

AddIn

Debug

Dialog

Window

Menubar

Toolbar

Excel Object Model

Workbook Object

Workbook

Worksheet

Chart

DialogSheet

Module

Style

Window

Name

RoutingSlip

Mailer(Mac only)

Excel Object Model

Worksheet Object

Worksheet

Range	Areas
Border	Font
Interior	Characters
Font	Name
Sound Note	Style
Border	Font
Interior	Outline
PivotTable	PivotField
PivotItem	PageSetup
Scenario	Drawing Objects

Range Object Properties

AddIndent Application Column
ColumnWidth Count Creator
CurrentArray CurrentRegion Dependents
DirectDependents DirectPrecedentsEntireColumn
EntireRow Font Formula
FormulaArray FormulaHidden FormulaLocal
FormulaR1C1 FormulaR1C1Local HasArray
HasFormula Height Hidden
HorizontalAlignment Interior Left
LocationInTable Locked Name
Next NumberFormat NumberFormatLocal
Orientation OutlineLevel PageBreak
Parent PivotField PivotItem
PivotTable Precedents PrefixCharacter
Previous Row RowHeight
ShowDetail SoundNote Style
Summary Text Top
UseStandardHeight UseStandardWidth Value
VerticalAlignment Width Worksheet
WrapText

Range Object Methods

Activate	Address	AddressLocal
AdvancedFilter	ApplyNames	ApplyOutlineStyles
Areas	AutoFill	AutoFilter
AutoFit	AutoFormat	AutoOutline
BorderAround	Borders	Calculate
Cells	Characters	CheckSpelling
Clear	ClearContents	ClearFormats
ClearNotes	ClearOutline	ColumnDifferences
Columns	Consolidate	Copy
CopyPicture	CreateNames	CreatePublisher
Cut	DataSeries	Delete
DialogBox	End	FillDown
FillLeft	FillRight	FillUp
Find	FindNext	FindPrevious
FunctionWizard	GoalSeek	Group
Insert	Item	Justify
ListNames	NavigateArrow	NoteText
Offset	Parse	PasteSpecial
PrintOut	PrintPreview	Range
RemoveSubtotal	Replace	Resize

Project Object Model

Application

Projects()

Windows()

Calendar

Weekdays

Periods

Years

Project Object Model Application Object

Application

Projects()

Calendars()

Resources()

Assignments()

Calendar

Tasks()

Assignments()

PredecessorTasks()

SuccessorTasks()

Windows()

PaneTop

PaneBottom

Project Object Model

Calendar Object

Calendar

Weekdays

Shift1

Shift2

Shift3

Periods

Shift1

Shift2

Shift3

Years

Months

Days

Shift1

Shift2

Shift3

VBA Procedures

Sub - from Record Macro

Function - user defined functions

Property - Let, Get, Set

Procedure Arguments

Named arguments

Optional arguments (must be variants)

IsMissing function

ParamArray argument

Module Declarations

Options

Option Explicit

Option Base 1 (to match Excel collections)

Option Compare Text

Option Private Module

Public = Global, Private, Static, etc.

User Defined Types

Constants

Debugging

Debug Window

- Code Pane

- Immediate Pane

Error Handling

- General error handling procedures

- User Interrupts

Menus/Toolbars

Menu Editor

MenuBar

Menus

MenuItems

ToolBar

ToolBarButtons

Controls

Placed on Worksheet or DialogSheet

Link to procedure or cell

Events

Dialog Sheets

Pre-defined & Built-in dialogs and methods

MsgBox, InputBox

Application.Dialogs(xlDialogOpen).Show arg3:=True

GetOpenFileName, GetSaveAsFileName

Custom dialogs

Special Procedures

Automatic Procedures

Auto_Open, Auto_Close

OnEvent Procedures

OnTime, OnSheetActivate, OnSheetDeactivate

OnWindow, OnKey, OnCalculate, OnEntry

OnData, OnRepeat, OnUndo

Addins

International Use

Object Libraries

Locale

Conversion Functions

Summary & Discussion
