

CE95940 – Introduction to Visual BASIC

- Database facilities
- Distributing VB programs
- Other VB features
- VB Professional features
- Additional VB resource material
- Alternatives to VB

Review common questions and problems from last week

Database Facilities in VB

- VB standard: minimal facilities, VB Professional preferred
- VB includes MS Access DB engine
- Data-manager utility
- The Data control
- “Bound” controls

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VB Standard is very elementary, and serious apps will need Professional, and probably additional third-party

Access: SQL/relational db; not particularly high-end

VB is reasonable tool for creating browsers, viewers. query apps, not much good for db design & administration

Data-manager: very simplistic, demo purposes only (but, is written in VB)

Data control has details about database and how to access. like a window onto set of records: could be all, or subset specified by an SQL select statement (eg a view). Called a Recordset

Then “bind” other controls like text, label checkbox etc to the data control (i.e. the fields of the records in the recordset)

data control provides scrolling services through the recordset, move prev, movenext, movefirst & movelast

The Data control

- Properties:
 - DatabaseName: filename of database file
 - RecordSource: name of table, or SQL select statement
- Methods:
 - UpdateRecord: save current bound-control values in recordset
 - UpdateControls: (re)display values of bound controls
 - Refresh: rebuild the record-set (eg after delete)

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data control methods:

updaterecord: take current values in bound controls and update recordset with those values

updatecontrols: opposite; discard current values in bound controls, refresh controls with values from recordset

refresh: rebuild the recordset from scratch (eg after deleting a record, or external event in multiuser environment)

Recordset property

- Underlying set of records associated with a Data control
- Exists only at run-time
- Lots of properties and methods
- Common-use: Edit, AddNew, Update, Delete methods

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set of records can be derived from an SQL query (like a view) or be just a table

concept of current record: use data control arrows to move around

concept of copy buffer: copy current record to copy buffer, modify, copy back (easy to implement "undo"; basis for updaterecord and undatecontrol methods)

methods:

Edit: copy current record to copy buffer to allow modification, used within code

Addnew: initialize copy buffer, make it current record. set values (via bound controls, then update)

Update: takes contents of copy buffer and write into recordset

Delete: delete current record from recordset

Bound controls

- Text, Label, Checkbox, Picture & Image
- Content/value of control is associated with fields of a Data control recordset
- Properties:
 - DataSource: name of Data control
 - DataField: name of field in recordset
- Demonstration & example

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bound controls: changes save automatically whenever current record changed (via data control arrows), may need to use update sometimes

simple demo of data control and bound textbox, use biblio.mdb, do all design-time binding with automatic selection

demo: data-manager; look at biblio

define a db & table

switch to phone; add checkbox field (business contact, boolean)

show data editor

Example 8\1:

discuss components, show add & delete code

add bound text to phone-number

add bound control to checkbox

Distributing VB programs

- Run VB programs on machine other than development systems
- Various code libraries (DLLs) required
- Automate installation (setup program)
- “SetupWiz”
- Demonstration

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bound to fail -- very buggy, finicky and criticized
first time run -- some location questions
revised version in demo directory -- get it!

Other VB features

- Grid and Timer controls
- “Drag & Drop”
- OLE
- Calling DLL procedures; Windows API
- Run-time error handling

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i.e. what have we missed?

grid is dumb?

timer useful

OLE -- superset of DDE

Windows API -- need Windows API experience

run-time errors: doable, but really cumbersome

VB Professional features

- Database facilities
- Additional controls
- Documentation & declarations for Windows API

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db as discussed: ODBC, better control of database objects

controls: various 3d; charting etc

documentation: knowledge-base of common problems & solutions and how-to information

run vbpro demo

show other documentation resources

Additional VB resources

- Books
- Windows & API references
- VB Sample programs
- User's group
- Online resources
 - Internet repositories (ftp, WWW)
 - Internet newsgroups
 - CompuServe
 - BBS

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lots of books, mostly average, really big, VB magazine

we've covered most of the material in most of the books I've seen

special purpose books like WinAPI for VB; DB

sample programs in VB directory

Toronto user's group

microsoft KB (knowledge-base)

microsoft BBS;CompuServe;

internet: ftp.microsoft.com, www.microsoft.com, www.vbonline.com

newsgroups:

comp.lang.basic.visual.misc:

comp.lang.basic.visual.database:

comp.lang.basic.visual.announce:

comp.lang.basic.visual.3rdparty:

FAQ - in demo directory

Alternatives to VB

- DOS: VB/DOS
- Windows:
 - general-purpose: CA Realizer; Borland Delphi
 - database: Powerbuilder; SQLWindows (Gupta); ObjectVision (Borland)
 - multimedia: Toolbook (Asymetrix)
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Compiled versus interpreted, personal reflection on performance issues

Delphi: Pascal-based, true compiler, true object paradigm

Alternatives to VB

- OS/2: VX-REXX ; VisualAge (IBM); SmallTalk (IBM and others); VisPro REXX, VisPro C (Hockware)
- Unix: Tk/Tcl; SmallTalk
- OS-independent: Galaxy; XVT
- Various places: “visual C/C++”

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ToolKit for Tool Command Language

platform-independent systems present an abstraction then generate an implementation for each system; can suffer from lowest-common-denominator problem

visual c vary widely from form painters with the ability to attach code, to integrated systems like VB that generate C++

consider need to access system, do non-standard, ability to reuse

Future considerations

- ???

the
end

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VB4 here now, not much user experience yet

better development environment

appears to exploit 32bit technology, provides stronger technology for MS object philosophy

shares standard OCX technology (same as MS visual c++)

development trends: use VB for UI work, C/C++ for underlying engines, computation, servers etc.

Summary: from first week: expedient development tool;

general purpose, useful for production-quality work (not a toy)

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end