

# CE94930 — Introduction to Visual BASIC

- DDE -- Dynamic Data Exchange
- Database facilities

# DDE -- Dynamic Data Exchange

- Move data directly between applications
- Source: where the data comes from
- Destination: where the data goes
- Destination initiates a *conversation*, requesting data from the source

# DDE source

- Based upon form: application-name and LinkTopic property
- Textbox, label and pictures can be source items

# DDE destination

- Any text, label or picturebox control
- Destination properties:
  - LinkMode: none, automatic, manual, notify
  - LinkTopic: “*application|topic*” of source
  - LinkItem: “*control-name*” of control on source

# Notify links

- Source application notifies destination of pending change
- Destination control LinkMode is “notify”
- Destination control gets LinkNotify event
- Destination control LinkRequest method

# Updating Picture links

- Automatic can be time-consuming
- Use LinkSend method of PictureBox to create LinkNotify event in destination

# Other DDE events

- LinkOpen, LinkClose, LinkError
- LinkOpen for source allows rejection

# DDE command interface

- Send/receive commands (vs data)
- Destination sends command with LinkExecute method
- Source receives command via LinkExecute event
- Command syntax and semantics are program-defined

# Reversed dataflow

- Send data from destination to source
- LinkPoke method of destination control

# Creating links dynamically

- Implementing “Paste Link”
- Use Clipboard to pass link information (clipboard format CF\_LINK)
- Windows convention for link information: *application|topic!item*

# Copy & Paste Link

- “Copy” places link information into clipboard along with raw data
- “Paste Link”
  - fetch link information (if available)
  - separate into LinkTopic and LinkItem strings
  - set destination control properties
- VB Programmer’s Guide, Chapter 20

# Non-DDE applications

- Want to be able to control applications that do not support DDE
- Send keystrokes: SendKeys
- Sends to active application
- AppActivate: active an application

# 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

# The Data control

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

# Recordset property

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

# 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 recordset
- Demonstration & example