

Using Visual Basic[®] To Create Internet Applications

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Who Am I?

☐ Columnist:

☐ *“Visual Basic Programmer’s Journal”*

☐ Co-author:

☐ *“Official VBPJ Guide to VB4”*

☐ MAPI and Web chapters

☐ Manufacturing systems developer:

☐ Visual Basic and Visual C++®

Presentation Plan

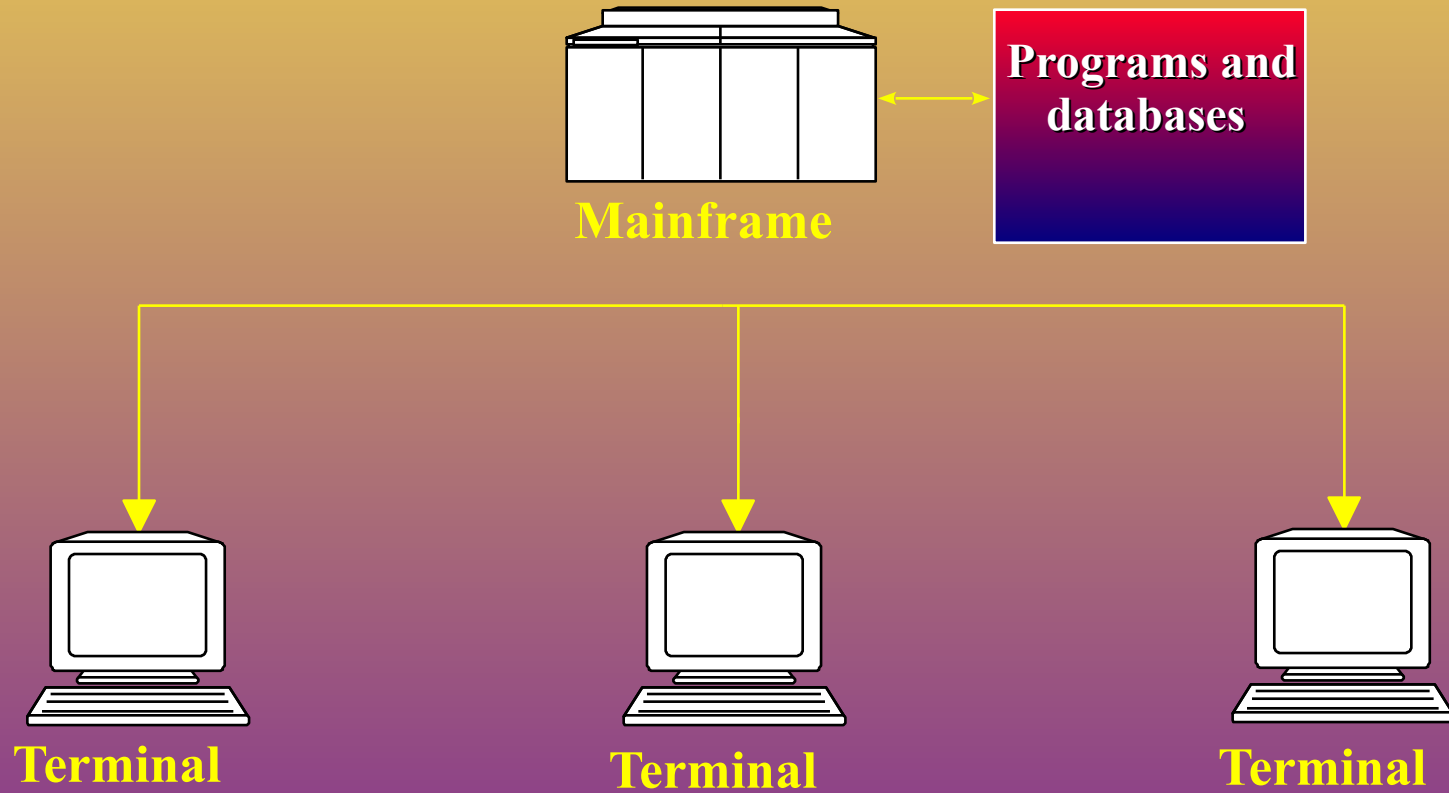
- What is the Internet?
- The World Wide Web
- Programming the Web
- Questions...

Enterprise Messaging

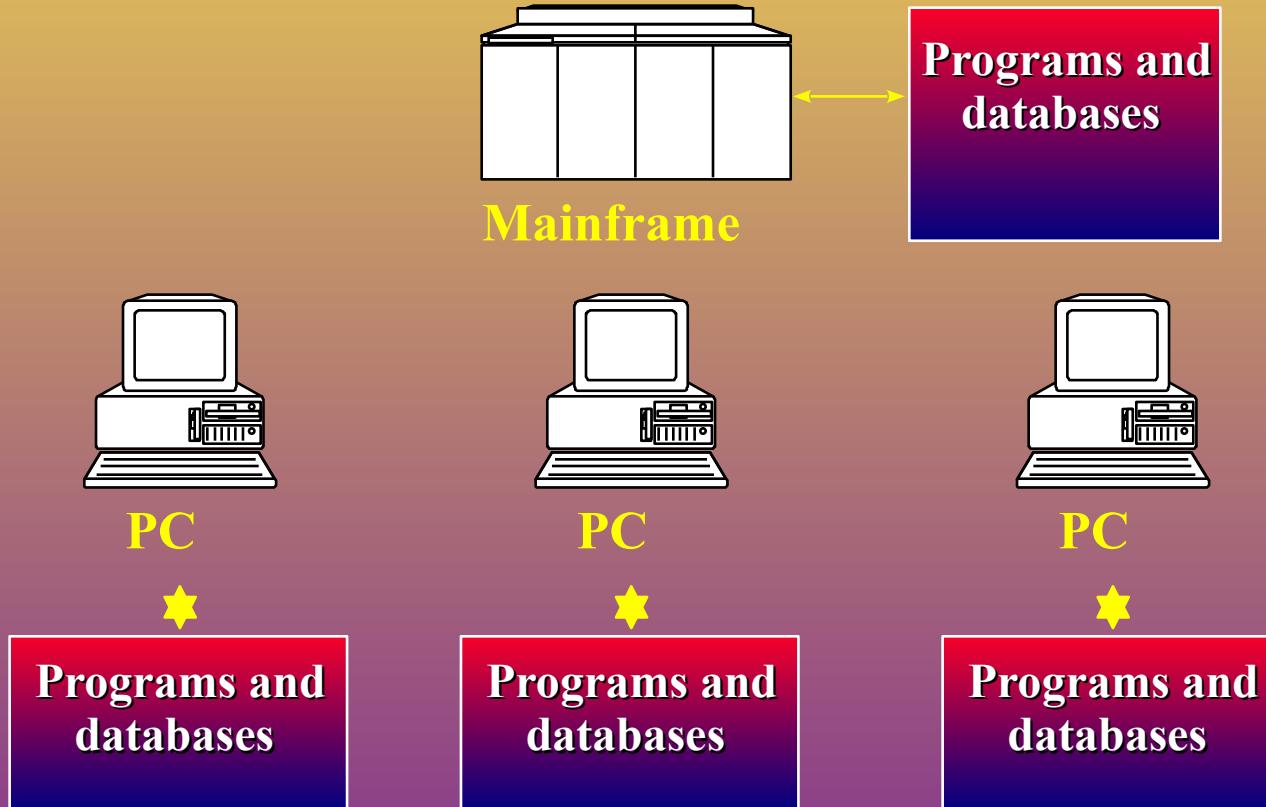
- ☐ E-mail, Web, and the Internet
- ☐ Calendaring and scheduling
- ☐ Workflow and forms processing
- ☐ Interapplication communication

System Architecture

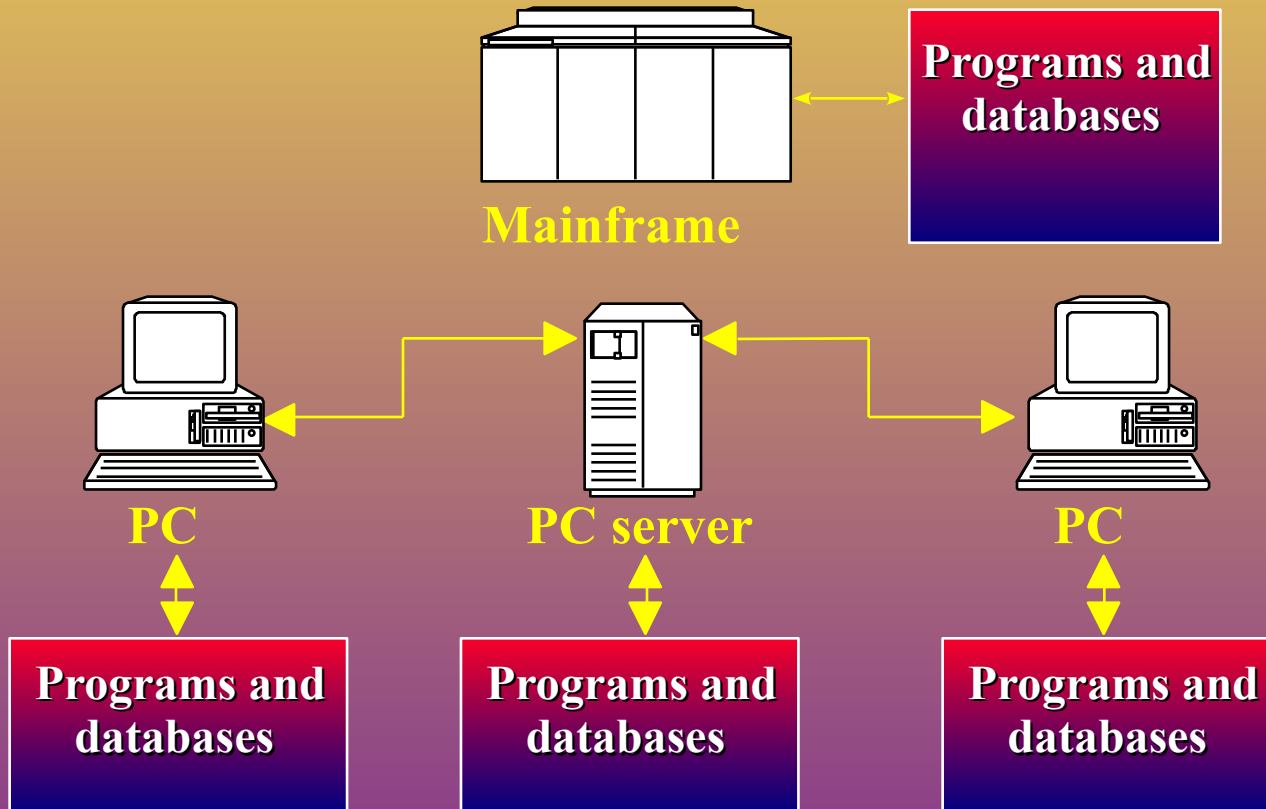
Mainframes - 1970s



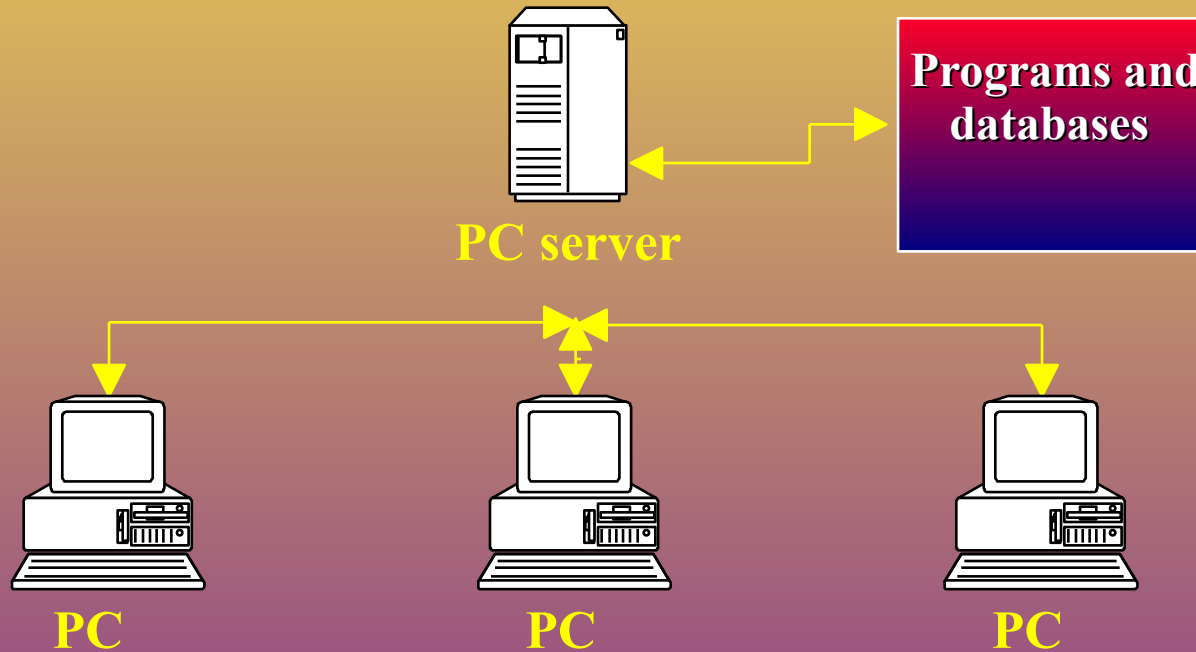
Stand-Alone PC - 1980-1985



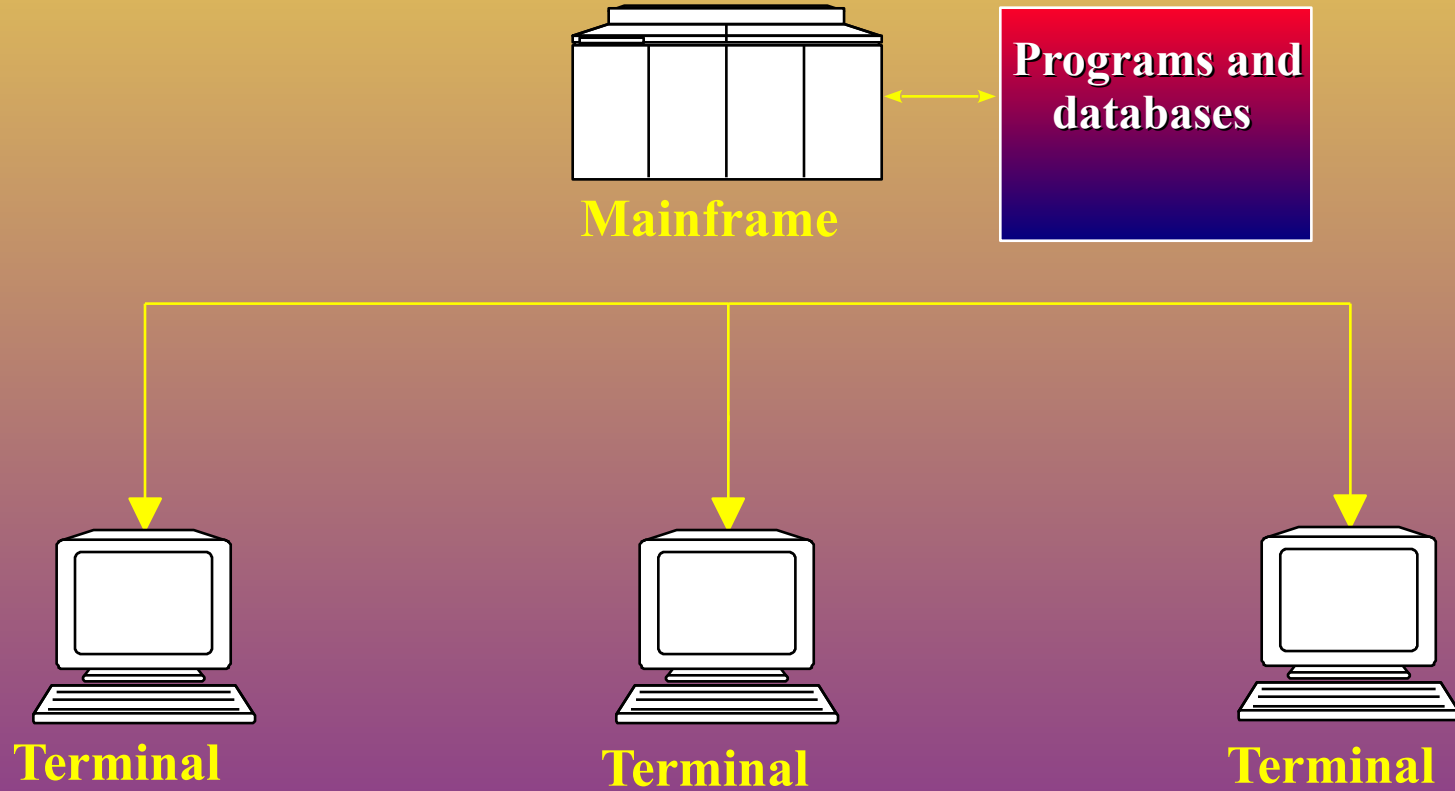
PC Networks - 1985-1990



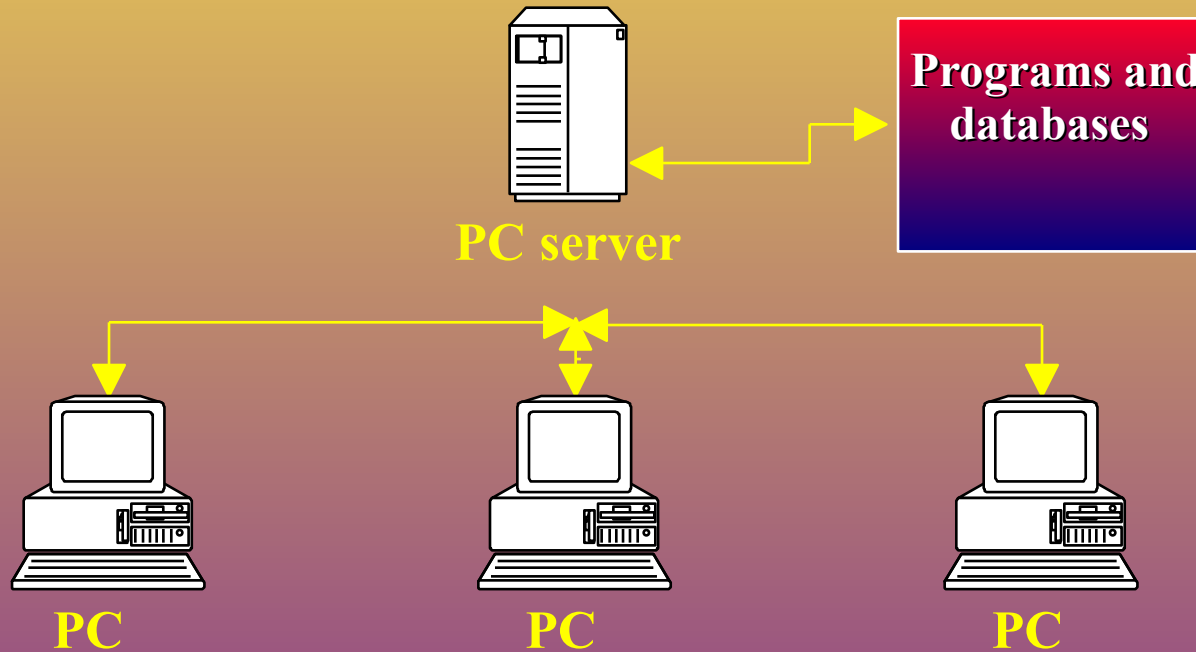
Client/Server - 1995



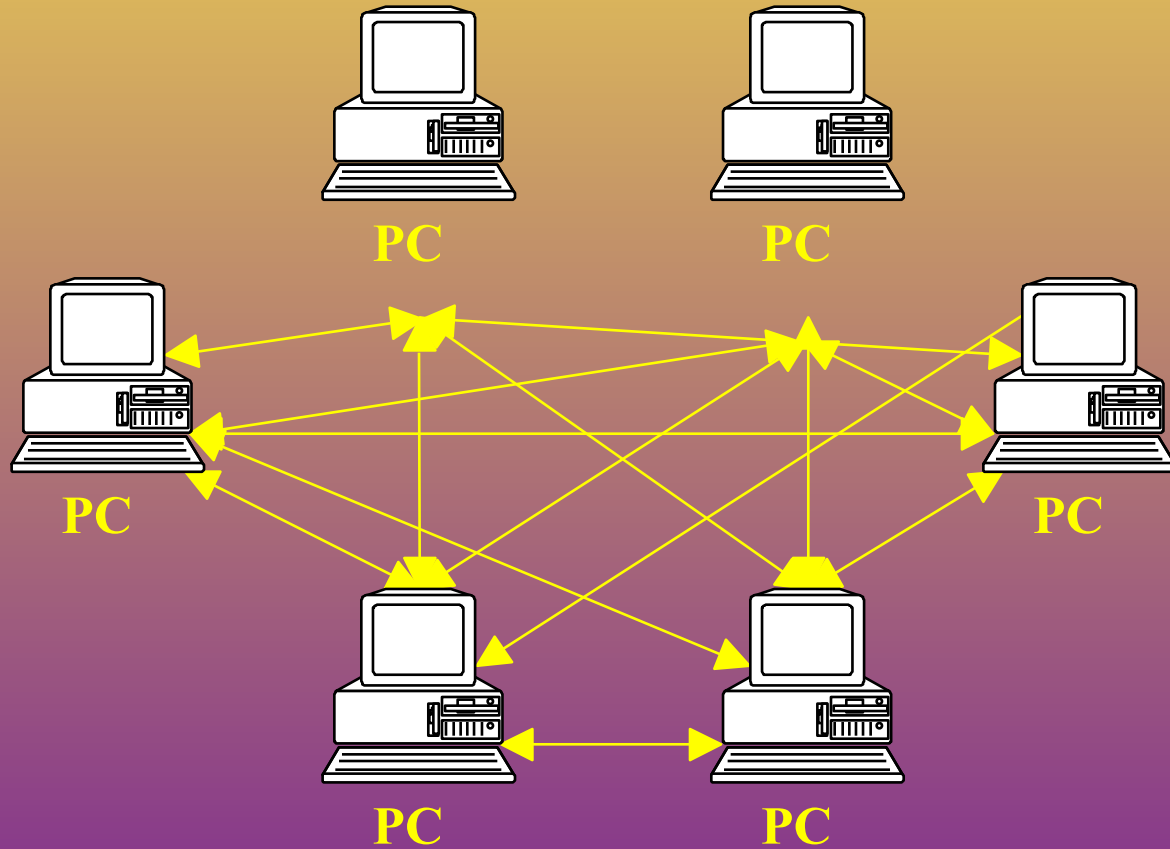
Mainframes - 1970s



Client/Server - 1995



Preferred Model



Preferred Model

- ❑ Peer-to-peer information sharing
 - ❑ Server or client or both
 - ❑ Not “three-tier” but multiple equal nodes
- ❑ Information shared in standard format
- ❑ Viewed by generic viewers
- ❑ Processed by generic processors

The “Internet”

- A set of interconnected networks that agree to transfer information
- Uses TCP/IP to communicate with other machines on the networks
- Explosive growth!

Internet Applications

 **Telnet - log on to computers**

 **FTP/Gopher - transfer files**

 **Mail - store and forward**

 **News groups - post and retrieve**

 **World Wide Web**

Internet Protocols

- Echo/time - simple information
- FTP - file transfer
- SMTP - e-mail
- HTTP - World Wide Web

Programming The Internet

- It was hard using calls to WinSock DLL
- It became easier with TCP controls
 - dsSocket VBX/OCX
- Really simple with HTTP controls
 - Sax, Crescent, Distinct, NetManage, etc.

Programming The Internet

- Client-side applications

 - Browsers, spiders

- Server-side applications

 - Database lookup

Windows[®] Sockets

- High level - sits on top of TCP/IP
- Will support other protocols in the future
- Socket = IP Address : IP Port
- VBX, OCX controls available now

Socket Controls

- Windows Sockets 1.1 VBX or OCX

- Can be both client and server

- From Dolphin Systems, Crescent, Distinct, NetManage, etc.

- dsSocket

 - Included in sample code

 - www.dolphinsys.com

Steps

 **Make connection**

 **Send data**

 **Receive data**

 **Close connection**

Connecting With Socket Controls

■ No matter what the protocol (Web, FTP, Gopher, etc.) always works the same way:

■ Specify the IP address or name

■ Specify the port

■ Tell control to connect

Sending And Receiving Data

- Send property
 - String property
- Receive event
 - Passes a string

Error Handling

■ Exception event

■ Passes an error code and message string

**■ Only need to know when connection is lost.
Everything else is handled for you!**

Sample Socket Applications

☐ Sample #1: News summary

☐ Get the headlines

☐ Sample #2: Currency

☐ Get the latest exchange rates

☐ Sample #3: Package tracking

☐ Update shipping information

Programming With HTTP Controls

- Add the control to the form
- Use the URL and text properties
- Respond to URL events

Sample HTTP Control Applications


 Sample #1: Web browser

 Create your own browser

 Sample #2: Microsoft® KB browser

 Custom search the KB

 Sample #3: ZipLoad

 Update Zip+4 information

Programming Server Applications

❑ CGI (Common Gateway Interface)

❑ Usually runs scripts from console application

❑ WinCGI

❑ Creates INI files to pass data

❑ ISAPI

❑ Direct calls to DLL

Sample Server Side Applications

Sample #1: DistList

Look up a distributor by zip code and return the address

Sample #2: CurrList

Look up currency exchange rates

Sample #3: CatReq

Log and e-mail requests for catalogs

Resources On The Internet For Visual Basic Programmers

Other Visual Basic Internet Web Sites

 Fawcette Windows Developer

 <http://www.windx.com>

 Carl & Gary's Visual Basic Home Page

 <http://www.apexsc.com/vb>

 Cal State Visual Basic Shareware Archive

 <http://coyote.csum.edu/cwis/winworld/vbasic.html>

 Microsoft Developer's Network Off-ramp

 <http://www.microsoft.com/msdn/>

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 <http://www.microsoft.com/msdn/>

 Simtel Visual Basic Archive at ftp.cdrom.com

 <ftp://ftp.cdrom.com/pub/simtel/win3/visbasic>

 Usenet archives Search Engine

 <http://www.apexsc.com:80/vb/vb-bin/ngsearch>

Next Steps For Staying Current

Microsoft Developer's Network (MSDN):

- A CD-based subscription providing comprehensive developer information and technology

Microsoft Solutions Development Kit (MSDK)

- JumpStart toolkit for developing integrated solutions with Microsoft Office and Microsoft BackOffice™

Microsoft Mastering Series training

- Self-paced training titles for developing solutions with Microsoft Visual Tools

Microsoft's Web Site for Developers

- <http://www.microsoft.com/devonly/>

- Send electronic mail to devwire@microsoft.nwnet.com with the words "Subscribe DevWire" in the message body

Questions?