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## The Editor's Soapbox

### SECURITY VIOLATIONS!

During these last weeks, there have appeared on the Internet several authoritative articles exposing existing openings into the browser making it possible to access a client computer. These holes can be utilized to manipulate programming flaws inherent in Internet Explorer ver. 3 and the new public release of IE beta ver 4. At the end of this article, we will list sites that provide information from researchers who have examined the code and have drawn conclusions based upon their direct experiments with the browser while using various versions of Microsoft's Windows.

Their warning, in my opinion, should be taken very seriously. It is not sufficient for Microsoft to say that all browser software is afflicted with these kinds of security breaches. We know there exists UNIX server software which can also use browsers to directly access a desktop computer. But more to the point, some of this criticism goes beyond challenging just browser security, but is also questioning the overall security of both Windows 95 and Windows NT while on the Internet. Please note the last.... On the Internet.

The upcoming debate will go far beyond questions of the code itself, or marketing ploys used by both defenders and opponents of Microsoft. Our national preoccupation with having and keeping the competitive edge has more than once forced us to defend a position that provides short term rewards to the risk takers, while leaving to chance unanticipated results. It is not surprising that many find it difficult to find any comfort level amid proponents of strategies of rapid technological progress as is this effort to integrate the desktop with Internet browsing! The language of dissent is not polite and is often strident. It doesn't diminish, however, the warnings of those with a gut understanding that important components of power could be handed over to others while we complacently welcome new electronic toys. Those of us who have been publicly advocating care relating to issues of privacy are neither paranoid or crazy, but rather come from a different place with different experiences.

This discussion is not just about a software company that has made important and far reaching contributions to the computer industry and to computer users internationally! (CONTINUE)

### EDITORIAL

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## **Internet Security, ActiveX and Java**

*Copyright 1997 by Herb Chong*

In recent weeks, Microsoft has been in the spotlight for several major security holes in its Internet Explorer and Internet Information Server products. However, in a more technical arena, Microsoft's ActiveX technology has been receiving criticism for its security lapses. In this article, I will try to explain the issues in less technical terms so that you can understand why the experts are not embracing ActiveX as a way to distribute smart Internet browser components but are preferring on Sun's Java.

The first thing you need to know is what is ActiveX. The first time that Microsoft mentions something resembling ActiveX in *Microsoft Developer Network News*, a bimonthly newsletter for developers, is in the January/February 1996 issue, Volume 5, Number 1. That issued leadoff article, entitled "What is Microsoft Up to on the Internet?", contains this paragraph

**Internet Extensibility in Software.** Web documents today are largely static—they present information or provide a simple user interface for retrieving information from the user. How can we make Web pages more dynamic—more like Web *applications*, if you will? *OLE Controls* and *OLE Scripting* provide the infrastructure that lets you add behavior and scripting to your Web page, in a language-neutral and tool-neutral way. OLE Controls and OLE Scripting leverage the investment in tools and knowledge that developers already made in OLE.

Note three things in this statement. First is that there is no mention of ActiveX yet, Microsoft hadn't coined the name at this time. Second is

that these controls are based on OLE controls. I will return to this key point, time and time again in this piece. The third and final point is that at the time of the Microsoft article, the only tools that allowed you to build OLE controls without resorting to to-the-bare-metal C coding came from Microsoft.

In an accompanying article in the same issue, Microsoft describes a new feature of Microsoft Office for Windows 95 named OLE Document Objects. I don't know how many of you use Microsoft Office's Binder application, but it is a handy tool for grouping together disparate types of Office documents into in single bundle, a Binder object, so that you can work on related documents and ensure they stay together, without having to hide parts of them that are not meant to be seen by their readers, just their authors. Binder uses OLE Document Objects to pull together documents into these bundles.

Again, a quote from Microsoft:

One obvious application for this technology is in Internet Browsers, where the adoption of binder technology will facilitate the presentation of Internet-based information while enabling the browser to present documents from Office and Office-compatible applications as well. In short, a user need only go to one application tool to browse and view all documents, whether local or network based.

There are at least two important assumptions in this statement. One is that you want to view documents created by some other tool, specifically Microsoft Office applications, directly using your web browser. The other assumption is that information suppliers are willing to send this information to you in a form that you can copy and modify.

Although users might not care as much, information suppliers care greatly who receives information in a form that that can be copied

freely and modified. Thus the assumption that people want to supply information across the Internet or an intranet is suspect.

By the May/June 1996 issue of *Microsoft Developer Network News*, ActiveX had suddenly appeared. In this brief issue, of only eight pages, the lead off article, “Is your Client Being Served?” contains a broad brush picture of what Microsoft planned for ActiveX and its Internet software strategy. As to be expected, most of the article is for the hard core software developer, but several things are clear. The first is that ActiveX is the general name for almost all of Microsoft’s Internet software designs and architecture. The second is that ActiveX is designed around the notion that there should be no need to know if a document is on the Internet, your intranet, or on your desktop. It all looks the same on the desktop.

Where, then, are all the worries by the security experts concentrated? As you can see by now, ActiveX covers so much that saying ActiveX is the problem is too vague. The security experts are worried about ActiveX controls that you download through your browser onto your system. What makes them worry? The first and most important thing that they worry about is that an ActiveX control, at this time, is a Windows OLE control. This means that it is written in native code, as Internet developers call it. Java, on the other hand, is written in Java and converted to byte code before being sent to your web browser. This is the one small difference that causes security experts nightmares.

Java code and the applications they make up that you work with on the Internet are downloaded to your system via your Web browser. The byte code that is sent is a set of instructions for an imaginary machine that doesn’t exist yet in hardware, although Sun has announced plans to ship a card to plug into a regular PC that understands Java byte codes. Because the byte codes are for a machine that has no hardware equivalent, it means that some software on your system has to translate those instructions into something that can run on your system. Sun Microsystems, the

**inventors of Java, has a document called “The Java Virtual Machine Specification” that describes exactly how these instructions are to be interpreted. It describes and limits exactly what Java code can or can’t do and in particular describes in detail what operating system services it uses and how it can be used.**

**There are two advantages to this approach. One is that because the byte code instructions don’t correspond to any hardware, all real systems are equally disadvantaged. The other is that one set of byte codes will work on any system that has a Java virtual machine. This includes nearly any system that can run a Web browser. Nothing comes for free, of course. The disadvantage of using a Java virtual machine is that it costs and can cost plenty to run Java code. A really good one will run only slightly slower than native code, but it will always be slower so long as a software-only virtual machine runs the code.**

**ActiveX controls, because they are native code, will run only on the system they are compiled for. At this time, it means only systems running Windows 95 and Windows NT. Intel machines running NT will run ActiveX faster than other types of hardware. The native code will run as fast as the hardware is designed to run, which is faster than Java byte codes. Also, because they are native code, they can take advantage of hardware and operating system features. The negatives are that unless you are running Windows 95 or Windows NT, you can’t use ActiveX. The Macintosh might be receiving ActiveX soon, but right now, there are no other platforms in sight. The most important negative is that the controls are native code and can access operating system services. Let me rephrase that: an ActiveX control can access all operating system services.**

**This then is the crucial difference you need to care about. A Java virtual machine places severe limits on what a Java applet you download from elsewhere can do. It is the responsibility of the Java virtual machine to make sure that all the ways an applet could**

potentially damage or alter your system without your knowledge are strictly controlled. ActiveX controls, on the other hand, are designed to take advantage of being able to do anything that the operating system knows. This includes searching for information on your hard drives and sending it back to the server, implanting a virus, or damaging your system. For instance, it is trivial to write an ActiveX control to shutdown your system as soon as it starts running. It is almost as trivial to write one that formats your hard disk without telling you.

Java and ActiveX controls differ greatly in their placement of responsibility for security and protection of your system. Because Java runs in a virtual machine on your system and has clearly described the responsibilities of it, the copy of Java you installed on your machine is what you must trust to protect your system. ActiveX, because they are native code and have nothing standing between them and the operating system, require the server that delivers the controls to your browser to ensure that they are delivering safe code. Each and every source of ActiveX controls must individually ensure that their controls are safe.

In a perfect world, either of these models of control delivery are safe. However, we don't live in a perfect world. Hackers regularly break in to Web sites and substitute HTML or other things on them. Doing so with a rogue ActiveX control would be nearly as easy to accomplish. Microsoft has offered a registration and secure authentication mechanism to ensure that an ActiveX control from a certain server really is from that server. A hacker would not only have to break into the server but also break the authentication code. However, given enough time, and it's not a long time these days, any reasonably good programmer can reverse engineer the authentication generator. As one wag put it, all authentication does, is give you a name to sue when the control breaks something.



**Substituting a malicious Java applet is not much harder than an ActiveX control. However, it's not the applet that runs on your system but the Java virtual machine. The applet would have to subvert the virtual machine first before it could begin to do damage to your system. Since the Java virtual machine is designed expressly to prevent this subversion, the task is much more difficult. Such a Java applet would be relying on a bug in the virtual machine failing in a certain manner so as to let the applet do as it pleased. This is not impossible. The Internet attack in the late 1980's that crippled it for several days exploited a bug in the mail system to break out and run amok. However, that is much harder to do than replacing an ActiveX control on a Web site.**

**Given how ActiveX is currently implemented, it is inherently as secure as the Internet as a whole is. You are relying on Web site administrators to protect their sites and periodically verify their security and content. I have a friend who is an IS auditor. One of her jobs is to break into her own company's computer systems to check their security. She has not yet failed to get into any system she has tried to access. She's been programming for about 4 years.**

**With Java, you are relying on the quality of the Java virtual machine in your browser. On the Windows platforms, there are only two vendors you care about, Microsoft and Netscape. If you are using either Internet Explorer or Netscape Navigator, you are using one of their Java virtual machines. A bug in either of them would expose millions of users at once to a malicious Java applet. This is the key point. It must be a bug in the virtual machine and it needs to be discovered and exploited. As you can imagine, both Netscape and Microsoft have programmers doing their best to make sure that never happens.**

**Until Microsoft sees fit to implement ActiveX controls for the Internet in a different programming language that is designed to be safe, ActiveX controls are more dangerous to use than Java applets.**

Microsoft has hinted that they are planning on doing ActiveX in Java. This would essentially be a way of running Java applets with an extra layer of software and none of the advantages of native code ActiveX.

The security flaws are inherent in the application model that ActiveX uses and in its current chosen implementation using native code. Java is designed to be safe across an unprotected Internet and it is possible to mathematically prove that it is safe.

*Herb Chong is a highly respected Windows programmer of long standing. He has written for any number of Windows magazines which include Windows Sources, The Cobb Group's Inside Microsoft Windows as well as this one, [WindoWatch](#). As usual, Herb has produced a highly readable piece to enlighten. Herb is the Contributing Editor of WindoWatch and the creator of the gorgeous art in the WW Art Gallery.*

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#### **Continued from Editorial Page:**

Microsoft's eminence and power is not just about skillful marketing or burying their competitors, as some might allege. It is about making it possible for ordinary people to have the powerful computer tools necessary to contribute and compete on a level playing field. The Internet has had a role to this end but the crucial part of the equation has been the evolution of the PC operating system where each user can be king.

Microsoft did not arrive at its dominant role by ignoring market pressures. It has traditionally listened to its customers and there is no reason to believe that they will become poor business people in order to win their competition with Netscape or anyone else!

Microsoft has survived the bad press of the flawed product before this latest debacle of the insecure browser. However we must not minimize the problem. *An insecure browser on the Internet is significant.* All sorts of institutions are willing to make the necessary financial commitment to the Internet but must wait until fundamental security questions are solved. The risks are still too great and place in jeopardy

reputations, assets, liability, and the Internet itself.

Since most operating copies of both Internet Explorer and Netscape have been given away at break neck speeds, it seems to me that the expectation of consistent quality is unrealistic.

A slow or buggy copy of any developer's browser can be removed from a system with ease. Not so easy is educating the public to insist that issues of security be given, as the norm, top priority by Internet developers. We have the right to expect and insist that Internet software will not open our systems to casual snoopers, marketers, con artists, unauthorized law enforcement officials, pranksters and criminals!

Microsoft will respond properly to this last public embarrassment because it must. Every time an insecure browser is released the public trust is reduced. Since at this early stage of browser/desktop integration the only war(t) on the browser table is one of rhetoric. Only silly children will fault a company for maintaining standards and credibility with its customers and the public.

Lest we become diverted to the next hot topic, it is our collective responsibility not to get taken in and abandon judgement to the cheer leaders. Those who have opted to get onto the Internet have added the richness of a unique experience to their homes, business and communities, but must be aware of the risks. Those risks must be eliminated or we could become passive partners in creating problems analogous to the worst kinds of public disaster. We've ignored public concern too often by refusing to carefully examine potential outcomes!

Some of us feel strongly that invasions of privacy can deliver a dangerous and predictable aftermath.

Lois Laulicht is the Editor of *WindoWatch!*

NEXT

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## Links to Bibliography and Sources

"Security Holes Threaten Microsoft Game Plan" By PETER WAYNER; NYTimes Online 3/28/1997

Several weeks ago, " ...students at Worcester Polytechnic Institute discovered ways to start up arbitrary programs on a user's machine running Microsoft's Internet Explorer Web browser."

"ISP Finds Another Chink in the Firewall" by Brian McWilliams, PC World NewsRadio, and Paul Heltzel, PC World 3/28/1997

"The security of online transactions took a big step backward this week with the discovery of a serious new flaw in browsers from both Netscape and Microsoft."

"Analysts downplay, vendors work to solve Internet security risk of GET protocol" By Judy DeMocker and Carolyn A. April InfoWorld Electric: 3/28/1997

Aaron Spangler <http://www.ee.washington.edu/computing/iebug>

"Known Versions Affected:

The exploit works for both Netscape Navigator 3.01 and Microsoft Internet Explorer 3.01 (even with Security Patches.) (earlier versions should work as well, but have not yet been tested). But you MUST be using Windows NT 4.0 or Windows 97. Look below to see how it works."

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## *How Security is Breached!*

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### **MS Internet Explorer Authentication**

**Copyright 1997 by Paul Ashton**

#### *Editorial Note:*

*Paul Ashton's work was cited in the New York Times piece by Peter Wayner cited earlier. Ashton has given us permission to republish his work. Obviously not an NT fan, he does represent a view.*

#### **The Situation:**

**Without your knowledge, the MS Internet Explorer on Windows NT transparently attempts to authenticate with a remote Web server that requests NTLM authentication.**

**During the authentication negotiation, IE sends your username, domain name or workgroup and hostname in the clear to anyone who asks. This is a serious flaw in itself.**

**The remote server then chooses and sends an 8 byte challenge to the client. Your IE client on NT will then encrypt a function of your password with this challenge, and send it back to the server. The server should compare its version of your encrypted password with the one sent by the client to complete the authentication.**

**In fact two versions of your encrypted password are sent, one of which is based on the full length and character set of your password up to**

**128 characters, the other one is the first 14 characters of your password in upper case.**

**The problems:**

- **The server is free to send the same challenge to every client that connects to it.**
- **The server is free to request a challenge from another server and send that for you to be encrypted.**
- **The client cannot detect whether this authentication process has occurred.**
- **The client cannot verify whether it is talking to an authentic server.**
- **The client cannot prevent the server using the client authentication token to attach to any file server/web server/MS Exchange server, etc. that it wishes to.**

**The Repercussions:**

**By setting the challenge to a constant the server can pre-compute a massive database of possible passwords and instantly detect whether the client is using any one of these.**

**Even if the user uses a strong password, the server can spend as much time as it wishes in the future to attempt to guess the password**

**without ever having to contact a genuine NT server.**

### **The Solutions:**

- **Immediately upgrade to Netscape**
- **Disable the NTLM SSP service in control-panel/services even though this may be detrimental to other services on NT.**
- **Upgrade to Unix! You know it makes sense**

**The Test only works with Internet Explorer on Windows NT. After you have tried it, please change your password immediately, whether it was guessed or not. Note that the dictionary in use is quite small.**

**Try it !**

### **Credits**

**Thanks to Craig H. Rowland for the suggestion of attacking the MS Exchange/WWW authentication protocol with the static challenge problem observed for file sharing.**

**Thanks to Evolution for hosting my demonstration.**

**Contact the author Paul Ashton of Eigen Solutions Ltd.**

**[paul@eigen.co.uk](mailto:paul@eigen.co.uk)**

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## *Outlook Part III*

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### *The Contact List* *Copyright 1997 by Stefan Assmann*

**The third installment of this series will deal with the contact feature of Outlook. The contact list is a kind of super address book where you can store a variety of information about a person.**

**Before we begin, however, I would like to share the following Easter egg in Office 97 with you:**

**First, there's a nice 3D animation in Excel 97. To get it, do the following:**

- **Start Excel with a new document**
- **Press F5**
- **In the range section, type X97:L97 and press ENTER**
- **Press TAB once**
- **Hold the control / shift keys and click the chart wizard**

**Next month, I'll have more useful tips, so stay tuned!**

**And now, to the serious work !**



**To go to contact view, simply click the appropriate icon in the outlook bar (far left). To add a contact, click the leftmost button on the toolbar. The following screen will appear:**

Untitled - Contact

File Edit View Insert Format Tools Contact Help

Save and Close Print Delete Undo Redo Copy Paste Find & Replace

General Details Journal All Fields

Full Name... Job title:

Company: File as:

Address... Phone: Business Home Business Fax Mobile

☐ This is the mailing address

E-mail Web page:

Categories... Private ☐

**This screen may look a bit overwhelming to you right now, but at the end of this article, you'll be a pro! Let's add the NT 4 editor, Linda Rosenbaum, to the list. Her name is no problem, so just type it in. More information can be added if you click on the full name button (you can add prefix, suffix and her middle name here). This also makes life easier for you in the beginning as Outlook automatically takes care of the formatting when you press OK. You may find it**

**tedious after a while, however. Personally, I type it in directly, which is much faster. As you can see from the next picture, Outlook also fills in the "file as" part. This part will be used in the address book portion of Outlook. You can choose to sort by first or last name here. I prefer last name myself, as this speeds up searching.**

The screenshot shows the 'Linda Rosenbaum - Contact' window in Microsoft Outlook. The window has a menu bar (File, Edit, View, Insert, Format, Tools, Contact, Help) and a toolbar with icons for Save and Close, Print, Cut, Copy, Paste, and other functions. The 'Details' tab is selected, showing the following fields:

- Full Name...**: Mrs. Linda Rosenbaum
- Job title:** (empty)
- Company:** (empty)
- File as:** Rosenbaum, Linda (dropdown menu)
- Address...**: (empty text area)
- Business** (dropdown menu)
- Phone:** Business (dropdown menu), Home (dropdown menu), Business Fax (dropdown menu), Mobile (dropdown menu)
- E-mail** (dropdown menu)
- Web page:** (empty text area)
- Categories...** (empty text area)
- Private** (checkbox, unchecked)

**As to the address portion, it is wise to click the address button and fill in the information here. This way, all your contacts will share the same address format. Since I don't know Linda's address, I'll just put in a fake one. Note that you can choose between her home address and business address and that business is selected by default, so be careful....**

**Linda Rosenbaum - Contact**

File Edit View Insert Format Tools Contact Help

Save and Close [Icons]

General Details Journal All Fields

Full Name... Mrs. Linda Rosenbaum Job title: Controller

Company: File as: Rosenbaum, Linda

Address... 100, Pizza Drive  
Pizzatown, CA 2950  
United States of America

Home [Dropdown] [Text]

Phone: Business [Dropdown] [Text]  
Home [Dropdown] [Text]  
Business Fax [Dropdown] [Text]  
Mobile [Dropdown] [Text]

☒ This is the mailing address

E-mail [Dropdown] lindar@cyburban.com Web page: http://www.winwatch.com

NT 4 Editor of this Windowwatch, a great magazine!

Categories... Private ☐

**Note that in the above screen I already filled in the other obvious, self-explanatory stuff. On the right side, you can insert all her phone numbers. Every number imaginable can be put in here. Her phone number, the number of her assistant, pager, mobile, fax, telex, etc. I even came across some things we don't even know in Europe!**

**You can put each contact in a certain category, for example business, international, hot contacts, etc. you can also combine categories (international business contact for example) or create your own and add them to the list of the existing ones. By classifying your contacts, you can easily generate all kinds of reports. As you can see, I've**

**categorized Linda as a hot international business contact. I sure hope she appreciates my confidence!**

**Linda Rosenbaum - Contact**

File Edit View Insert Format Tools Contact Help

Save and Close Print Copy Paste Undo Redo Find

General Details Journal All Fields

Full Name... Mrs. Linda Rosenbaum Job title: Controller

Company: File as: Rosenbaum, Linda

Address... 100, Pizza Drive  
Pizzatown, CA 2950  
United States of America

Home Phone: Business Home Business Fax Mobile

☒ This is the mailing address

E-mail: lindar@cyburban.com Web page: http://www.winwatch.com

NT 4 Editor of this Windowatch, a great magazine!

Categories... Business; Hot Contacts; International Private ☐

**Right. Now that we've filled in all the general background, let's get into a little more detail. Click the detail tab. The following screen will pop up:**

**Linda Rosenbaum - Contact**

File Edit View Insert Format Tools Contact Help

Save and Close Print Cut Copy Paste Undo Redo

General Details Journal All Fields

Department:

Office:

Profession:

Assistant's Name:

Manager's Name:

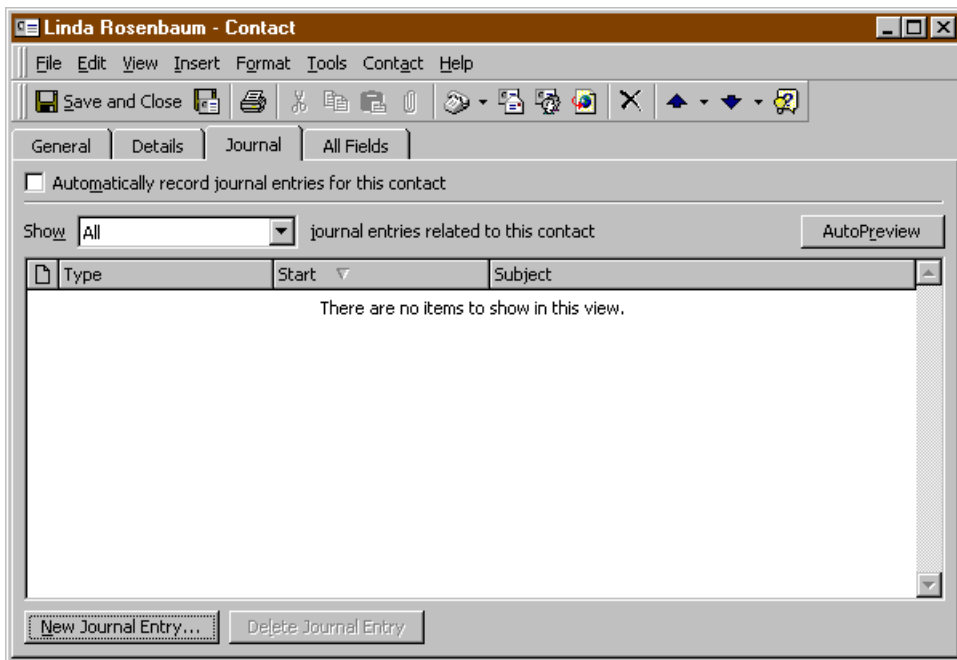
Birthday:  ▼

Anniversary:  ▼

Nickname:

Spouse's Name:

**It's all very clear, as you can see. One nice touch here: if you fill in the birthday / anniversary of your contact, Outlook will put an entry in the calendar with an alarm and automatically alert you way in time about this event. Handy for those of you who tend to forget their wedding anniversary....to be alerted of course, it's imperative that Outlook remains resident all the time, so put it into your startup group as I did.**



**The journal tab will seem totally unfamiliar to you, as I haven't discussed the functionality of Outlook's journal yet. That will be something for next month. For now, just trust me when I tell you that's it's super-handly to select the "automatically record journal entries for this contact" option. The next articles in this series will explain in detail the reason for this.**

**The last tab will show you your information in a table format, letting you choose between the types of fields you want to see (only the phone numbers, the personal info, the business info etc). for now, press the [save and close](#) button.**

**Your contact will now appear in the contact list in Outlook, displaying the most important information at a glance in the form of an address card. If you want more information, simply double-click the address card and you'll be back in the familiar dialog box of a few seconds ago. From outlook's toolbar, you can choose to display your address card in a variety of ways, including a more detailed card, all your contacts sorted by company, phone number, location or category.**

**And that's about all there is to tell about creating / editing a contact. Very simple, no? Next month, we'll discuss the journal in detail and explain the link between the journal and the contact list.**

**As always, should you have any questions, contact me immediately on the following address: [Stefan.Assmann@club.innet.be](mailto:Stefan.Assmann@club.innet.be) Better still, put me into your contact list as a supplemental exercise. All questions will be answered both privately and in the next issue.**

*Stefan writes up a storm and aren't we lucky to have him! This is part of an ongoing Outlook Series.*

## **Partition Magic to the Rescue**

**Copyright 1997 by John Campbell**

**PowerQuest Corporation first introduced Partition Magic back in 1995 as an alternative to the DOS FDISK utility. It made possible creating and resizing hard drive partitions without destroying data. The latest version, 3.0, does much more. It now works with DOS, Windows (3.x - NT4.0) and OS/2. PM supports the NTFS file system used by Windows NT, and the FAT32 file system for Windows 95. It also includes IBM's Boot Manager utility and a subset of MicroHelp's UnInstaller. And if that weren't enough, version 3.0 permits users to copy partitions from one hard drive to another, analyses cluster waste, and it helps update drive references when CD-ROMs or removable storage devices are added to a system.**

### **So what's the big deal about partitioning a drive?**

**There has always been some controversy surrounding the whole idea of disk partitioning. The most compelling reason to partition a large hard drive is to increase file storage efficiency. Most computer users just don't realize how wasteful a multi-gigabyte drive really is, until they find that they are running out of free space, even though Windows Explorer shows their files are only occupying a portion of the total drive capacity. Why this is so is explained later. Efficiency aside, there are other logical reasons to create multiple partitions. It makes sense to, whenever the application permits, to keep data files**



separate from programs. If all data can be in its own partition, backup is greatly simplified. Also, directory paths are shorter, and easier to navigate. Applications and data become easier to locate. Of course, for users of multiple operating systems, partitioning is a must. But in the past, partitioning was such a hassle, only the most determined users bothered to take advantage of it.

### Background

During the formatting process, a hard drive or a floppy diskette is mapped into chunks called clusters. Because of limitations imposed by the File Allocation System (FAT) used by DOS, Windows 3.x and retail versions of Windows 95, as the drive size increases, so does the cluster size (in bytes). Why is it important to know anything about these concepts? Because, as I already mentioned, data is stored in clusters, *and no more than a single file can occupy a given cluster!* The impact of this statement becomes clear if we look at some examples.

<u>Hard Drive (or partition) Size</u>	<u>Cluster Size</u>
0 - 15MB	4KB (4096 bytes)
16MB - 127MB	2KB (2048 bytes)
128MB - 255MB	4KB (4069 bytes)
256KB - 511MB	8KB (8192 bytes)
512MB - 1,023MB	16KB (16384 bytes)
1,024MB - 2,047MB	32KB (32768 bytes)

**You can see from the above table that today's large hard drives use a minimum of between 16KB and 32KB to store a single file! This means a one-line batch file, which may contain fewer than 20 bytes, will eat up over 10,000 bytes of storage space on your hard drive. Now, consider those Microsoft Internet Explorer Favorites, each of which is stored as a separate file, usually between 40 and 100 bytes in size. I have 325 of them, totaling 20,136 bytes. But the partition they are stored on uses 16kb clusters. *This means I have used up over 5MB (325 x 16384) storage space for those 325 relatively small files!* So what happens to the unused space in each cluster? A 100 byte file uses only a tiny portion of a cluster. Well, the remainder is wasted, since no other file can intrude into a cluster that already contains any data.**

**There are a number of ways to get around this dilemma. Perhaps the easiest is to compress a drive, using a utility like Stacker or DriveSpace. Compression utilities produce smaller cluster sizes, regardless of disk capacity, but they also have certain disadvantages. Or, one can switch to an OS that uses a more efficient file storage mechanism than FAT, such as Windows NT or OS/2. But these are drastic solutions to a problem that has an easier solution - partitioning.**

**A physical hard drive can be divided into a number of smaller parts, called partitions. Each such partition is seen as a separate drive by the operating system, and receives an identifying letter. For example, a physical drive divided into three partitions will be treated as drives C, D and E.) Now, there are different types of partitions, and this gets confusing fast. For now, let's not go into the differences between active, extended and logical partitions. The point is, by creating**

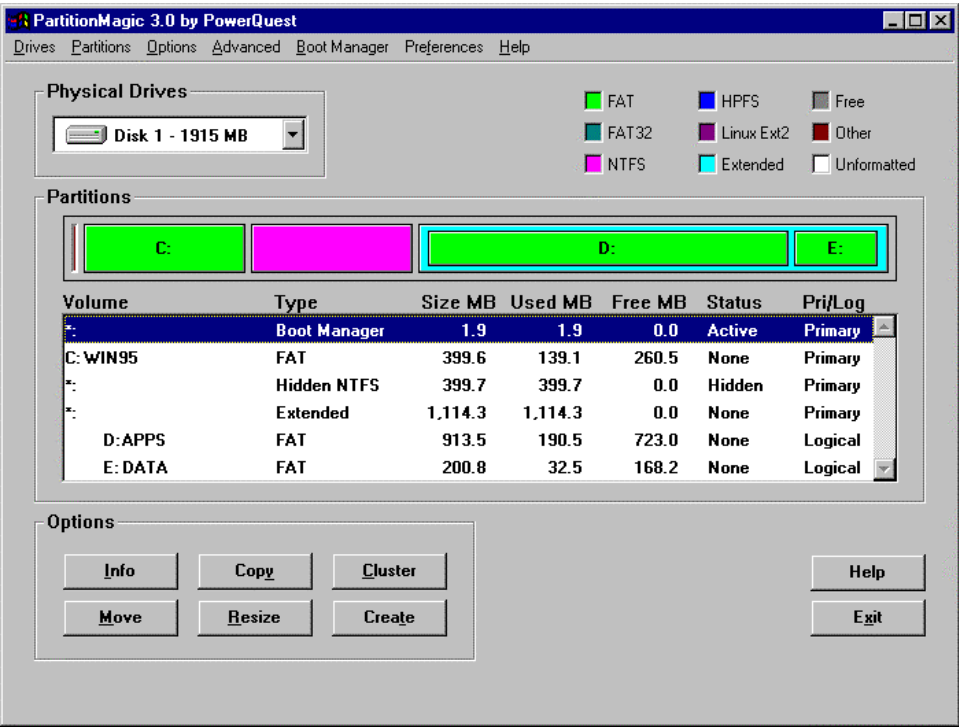
partitions, we can reduce cluster size, thereby increasing storage efficiency.

Before the introduction of Partition Magic, creating a partition (or modifying an exiting partition) on a hard drive that already contained an operating system and data was a nightmarish task. First, everything had to be backed up. Then the DOS FDISK utility had to be used to create the partition(s). Next, the DOS FORMAT utility had to be used to reformat, destroying everything that was on the disk. Finally, the OS and all program and data files had to be restored from the backup. If you were lucky, everything worked again. No wonder most users never bothered. It was easier to just accept a drive as delivered, no matter how wasteful of storage space it was. Enter Partition Magic.

The program ships on a single CD-ROM, and is accompanied by a 218-page manual. Operation requires at least a 386SX processor and 8MB ram. The installation, which can be done under DOS, Windows 3.x, 95, NT, or OS/2, (I used Windows 95), proceeded smoothly, and created several program icons. These included the Partition Magic executable, PQ Boot (explained later), DriveMapper, and UnInstaller Mover Setup. There is also an icon to uninstall PM itself. Boot Manager may be installed if the user chooses this option during the installation. The usage of the various supplemental utilities will be covered later.

Because PM makes low-level disk changes, it must have exclusive access to the hard disk. For this reason, attempting to run the program under Windows will cause the system to switch to DOS mode before PM loads. The main screen displays an overview of the hard

drive, with existing partitions and other useful information clearly presented.



From the main screen, the user can create, move, copy, delete and resize partitions. *However, it is imperative that the pertinent manual sections be read before attempting any of this!* The online help is extensive, and there are useful dialogs to guide one, but certain operations will fail unless the user has an understanding of what is

taking place. The manual does a good job of explaining the different operations by setting up three scenarios, then covering each example, step by step. Each example assumes the user has never partitioned a hard drive. (More advanced scenarios can be found on the manufacturer's Web page.) The first scenario covers the most basic operation; creating one partition on a drive that previously had none. The second creates two new partitions, and explains how to move applications and data from one to another, using DriveMapper and UnInstaller Mover. The third example covers installation of Boot Manager in a separate partition, then using that utility to manage multiple operating systems. Along the way, one becomes familiar with concepts such as freeing space by making a partition smaller, then using that space to create or enlarge another partition. The beauty of PM is that all of this is done by simply clicking on a displayed drive or partition, using the mouse to move partition boundaries, then following directions in dialog boxes, all from the main screen.

The dialogs clearly show the minimum and maximum sizes a partition can have (it can't be made smaller than the space required to hold whatever data is stored in it), and the resulting cluster size as the partition is resized. I used PM to redo my partitions after I removed OS/2 from my computer. I had a single hard drive containing a primary partition C, and an extended partition divided into five logical partitions, B through H. OS/2 had been installed in Drive H, which I no longer needed. I used PM to remove that partition, which created 700MB of free space at the end of the hard drive, which was depicted at the right end of the PM display. I then pulled to the right, one at a time, Drives G, F, E and D, in that order. As each of these logical drive was moved, PM moved the files the drive contained into the new area of the physical drive. This operation can take time - ten

to fifteen minutes per drive in my case. I now had 700MB of free space at the beginning of the extended partition - just to the right of Drive C on the display. I pulled the extended partition's left boundary 700MB to the right, then pulled Drive C's right boundary over to meet it. Not satisfied with the 32KB cluster sizes I now had on several partitions, I moved boundaries around, making some partitions larger and others smaller, until none exceeded the 16KB limit I was shooting for.

I found that PM worked as advertised. It made what once was a time-consuming task relatively easy. But, the latest version offers even more. The Copy function allows one to make an exact duplicate of an existing partition on a second hard drive - data and all! Imagine being able to easily move your system and data to that new, larger, hard drive, or clone your existing system as a safeguard before upgrading to a new version of an operating system. It is possible to "hide" a selected partition, meaning it won't be assigned a drive letter, and will be inaccessible to the OS, and can't be seen or tampered with by unauthorized persons. PM can then be used to "unhide" that partition when access is needed. Another feature changes the maximum number of entries permitted in the root directory. This can be handy if one wants to use Microsoft long file names there. Oh yes, PM also can convert partitions from FAT32 (the new Windows 95 version) to FAT16 (DOS, Windows 3.x - old 95) and back, or convert FAT16 partitions to the OS/2 HPFS system, all without data loss.

I will end this review with a brief overview of the other utilities included with PM version 3.0. (I didn't test these). The Boot Manager utility, formerly available only with IBM's OS/2 system,

**makes it possible to choose from a menu which of multiple operating systems the computer will boot into each time it starts up. I am familiar with this utility, since I have used both OS/2 Warp 3.0 and the Warp 4.0 beta. It is a welcome addition to a non-IBM OS. The UnInstaller Mover from MicroHelp helps move an application to another drive or folder. It does this by building a database of all file locations and associations. One can move single applications or application groups, such as Microsoft Office. Both 16-bit and 32-bit versions of the utility are included with PM. I had to try this one. I moved MS Internet Explorer from C to D. It worked properly, still found its favorites in another directory that was not moved, and was still called from several programs that launch MSIE. I'm impressed!**

**DriveMapper is a wizard for Windows 3.x, 95 and NT that allows one to easily change drive letter references in files. This comes in handy when partition changes cause a CD-ROM drive letter to change. DriveMapper will adjust the references in files that point to the CD-ROM.**

**PQ Boot is a command line utility that allows the user to quickly change between bootable primary partitions, in cases where the more full-featured Boot Manager is not needed.**

**Partition Magic is as close to an indispensable utility as I can imagine, being in the same must-have category as Norton Utilities for users who ever need to fool around with partitions. The only fault I found, and it was minor, was the slow to load online help system. The manual is especially well done, and provides a wealth of information about drives, partitions, and related matters.**

*At one point in time John Campbell had four operating systems on his hard drive(s). That's got to qualify him for something more than insanity and fitting right in with the rest of the [WindoWatch](#) bunch! He is a regular contributor to [WindoWatch](#), meeting computer challenges with enthusiasm and commitment! He is the author of many articles.*

## I Was Framed! II

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### Developing the Frames for our Page

If you recall from last month, we now have a basic framed page design without any content whatsoever. This already makes our page probably one of the top 50% of pages on the Web for content, even though rather boring for the visitor. So, this column, we will begin to add content to that framed set up.

If you recall, I made an earlier comment that one nice thing about a framed Web site was the consistency which it allows you maintain. Given that you can create a title frame for the site and then leave it alone, so that no matter what page is being viewed, the title remains displayed. Obviously, then, what we want first for our page is that title frame designed.

I will warn you now that we may not get much further than our *title* frame this column. In planning how to handle that portion of the page, I decided that the best way to do it was to develop a fairly decent title frame, right from scratch, and now, rather than later. The problem with this approach is that, to do so, I will be forced to introduce three or four new HTML tag sets, which I really hadn't planned on discussing yet. Because of this extra discussion now, rather than later, I may run out of room in this column for the body of our page, other than perhaps, a very simple, almost nothing one to tide us over until next column.



**Before we begin, let's review the code for our framed page basic...**

```
<HTML>
<HEAD>
    <TITLE>WindoWatch HTML Tutorial Page</TITLE>
</HEAD>
<!-- This sets the frames for browsers that can use them -->
<FRAMESET COLS="100%" ROWS="27%,*">
    <FRAME NAME="FTitle" SRC="wwtitle.html" SCROLLING="AUTO">
    <FRAME NAME="FBody" SRC="wwmain1.html" SCROLLING="AUTO">
</FRAMESET>
<!-- This sets a page for browsers that don't allow frames -->
<NOFRAMES>
<BODY BACKGROUND="images/wall.gif">
    If you are seeing this text, then your browser does not support the use of frames, which is
    what this tutorial page is all about.
    <P>If so, please obtain and install a browser which is frames capable, such as Netscape or
    Internet Explorer, and try loading this page again
</BODY>
</NOFRAMES>
</HTML>
```

**There is one change you might note in this code from what we wrote last month. That is a change in the `<FRAMESET>` parameters from `ROWS="20%,*"` to `ROWS="27%,*"`. The reason for this is simple. The extra room in the title frame was necessary for the more complicated title space that I had decided upon as I mentioned earlier. More on that later, of course, so let's get started.**

**What we want to do is to design a page called wwtitle.html, which will be displayed in our frame named “FTitle”. For this one, content is actually only of relatively minor concern, at least, for now, since it is basically little more than the title we want displayed constantly. Something like this....**

```
<HTML>
<HEAD><TITLE>Title</TITLE></HEAD>
<BODY BACKGROUND="images/wall.gif" TOPMARGIN=0 LEFTMARGIN=0>
<CENTER>
<H1>The WindoWatch HTML Tutorial Practice Page</H1>
</CENTER>
</BODY>
</HTML>
```

**Simple enough, isn’t it? Basically, this will display a title across the top of the upper frame, however, you will note my predilection for something fancier than just a plain background, in the use of our wall.gif background for the body. However, in all honesty, this is just the start. This page is simply much too plain, even for me!**

**To liven things up, we are going to do two things:**

- 1) we are going to change the colour of the title to reflect the fact that it is now spring, and things should be getting brighter. (Well, here in Ontario, it is almost spring. Mother Nature is still a little confused, but she is trying), and**
- 2) we are going to add a “welcome” marquee to the title frame.**

**Here is the new code for wwtitle.html .....**

**WW**

```
<HTML>
<HEAD><TITLE>Title</TITLE></HEAD>
<BODY BACKGROUND="images/wall.gif" TOPMARGIN=0 LEFTMARGIN=0>
<BASEFONT FACE="Times New Roman" SIZE=3>
<CENTER><H1><FONT COLOR="#FF0080">The WindoWatch HTML Tutorial Practice
Page</FONT></H1>
<MARQUEE ALIGN=MIDDLE BEHAVIOR=SCROLL DIRECTION=LEFT LOOP=INFINITE
SCROLLDELAY=1>
Welcome to our practice page. This is an example of a framed page, from columns 5 and
6.</MARQUEE>
</CENTER>
</BODY>
</HTML>
```

Obviously, a few new things are here, and some explanation is required, so here goes.

```
<BASEFONT FACE="Times New Roman" SIZE=3>
```

Although not required in a simple page, the above HTML tag, which sets a base font and size for the page, is not a bad idea. In this case, I prefer to use such a statement in the page, because we are going to be making font changes later in the body, and I simply prefer to set the base before changing it to something else. Times New Roman is a font that virtually every computer will have in one form or another and be able to display easily. It is also easy to read, and pleasant enough to the eye. This column is written in Times New Roman.

WW

**<CENTER><H1><FONT COLOR="#FF0080">The WindoWatch HTML Tutorial Practice  
Page</FONT></H1>**

This is the change for item 1) above, i.e. modifying the colour of the title text to display in a reasonably pleasant springtime mauve (purple?), which is easily read against our wall.gif background. Nothing too fancy here and like most HTML tags, we require an opening and a closing tag (**<FONT>** and **</FONT>**).

The normal parameters for the **<FONT>** tag are **SIZE=**, **COLOR=**, and **FACE=** . Since we are not changing the font name, we can leave that parameter out in this case. We also don't need **SIZE=** , as the **<H1>** **<H1>** header tags we are using automatically define a larger size text than the base, and it is unnecessary to repeat that. What we do need and want, however, is that **COLOR=** parameter. Don't ask me how **"#FF0080"** is translated into our mauve colour, as I can't explain. I can tell you that this is a hex code for that colour as defined in the HTML specification, and that I obtained the hex code by using the Quick Font icon in HomeSite, and selecting a colour for the font from a chart of them. HomeSite did the rest.

But that is it... our title will now display in the top frame of our page, as mauve (purple) text on our gray wall.gif background.

**<MARQUEE ALIGN=MIDDLE BEHAVIOR=SCROLL DIRECTION=LEFT LOOP=INFINITE  
SCROLLDELAY=1>**

Welcome to our practice page. This is an example of a framed page, from columns 5 and 6.</MARQUEE>

I know... this one is completely new, and totally beyond anything we have done in this column to date. It is also Microsoft Internet Explorer specific, which is something that we will take care of in a few moments.

When the remote browser is Internet Explorer, a gray bar will be displayed, with the text we have specified, centred vertically in the space (**ALIGN=MIDDLE**), scrolling across the bar (**BEHAVIOR=SCROLL**), from right to left (**DIRECTION=LEFT**), indefinitely (**LOOP=INFINITE**). Once the text has disappeared on the left side of the page, there will be a one second delay before it reappears on the right side to begin the scroll again (**SCROLLDELAY=1**).

Not all that difficult, is it? One must point out, however, that, prior to Internet Explorer's introduction of this non-specification tag this was either impossible, or only supported in Netscape through the use of a Java script. Actually this was just a similar function that only ran in the browser status bar rather than on the page itself. (In fact, it may yet be adopted for the still to be finalized HTML 3.2 spec). What Microsoft did was adopt a slightly different outlook on placement. They made it a fairly simple tag set which most folks could easily use in their source code to simplify the process for the many who have neither time or patience to learn Java scripting.

This does not, however, solve the problem mentioned earlier, that only Microsoft Internet Explorer supports the **MARQUEE** tag, leaving those using other browsers, particularly Netscape, out in the cold.

Some time ago, when designing my own pages, which also use the **MARQUEE** tag in the title frame, I was concerned about this, and checked the page out with Netscape. Rather than displaying the marquee, Netscape simply displayed the text in place of it, which was reasonable, except that, it also ignored the **<CENTER> </CENTER>** tag I had used when displaying that text. This caused the text to appear rather funny in Netscape as the title was centred but the text of the marquee (non-scrolling) was not.

At the same time, while looking at the same page using Internet Explorer, I also found that the marquee simply did not look right going from left to right across the title frame. In the first place, Internet Explorer, like Netscape, ignored the `<CENTER>` `</CENTER>` tags around the `<MARQUEE>` code, and secondly, the gray background the `<MARQUEE>` tag uses just didn't look right against my wall.gif background without something to set it off a little. Luckily, the solution to both problems of display happened to come in one package of HTML tags... a table.

Using table tags, Netscape could be told to frame the text in a border, and centre that bordered text on the display, nicely below the centred title. At the same time, Internet Explorer could be told the same thing, with the single exception that, when you were using Internet Explorer, the text was not simply displayed in the framed box, but scrolled from right to left across the box.

This worked well, and is, therefore, what we will use for our framed page to perform the same function, as in this code.

```
<HTML>
<HEAD><TITLE>Title</TITLE></HEAD>
<BODY BACKGROUND="images/wall.gif" TOPMARGIN=0 LEFTMARGIN=0>
<BASEFONT FACE="Times New Roman" SIZE=3>
<CENTER><H1><FONT COLOR="#FF0080">The WindoWatch HTML Tutorial Practice
Page</FONT></H1>
<TABLE WIDTH=70% CELLPADDING=4 BORDER=4 BGCOLOR="#C0C0C0">
<TD ALIGN=center VALIGN=middle>
<MARQUEE ALIGN=MIDDLE BEHAVIOR=SCROLL DIRECTION=LEFT LOOP=INFINITE
SCROLLDELAY=1>
```

Welcome to our practice page. This is an example of a framed page, from columns 5 and 6.</MARQUEE>

`</TD></TABLE>`

`</CENTER>`

`</BODY>`

`</HTML>`

which introduces us to a subset of the table commands available in HTML. The table we are using here is a simple one, with a single cell with border that we will use to hold the marquee in Internet Explorer and/or the text displayed in Netscape.

If we look at the commands used the first one is.....

`<TABLE WIDTH=70% CELLPADDING=4 BORDER=4 BGCOLOR="#C0C0C0">`

which sets up the table (and requires the `</TABLE>` tag at the end of the table) in HTML. The rest of the parameters in the command are used to control the appearance of the table.

Before we continue, though, let's look at tables in HTML a little. Many of you may think of the type of table normally seen in Word or other word processors, i.e. what looks to be a mini-spreadsheet, with rows and columns, often containing numbers.

If you have worked with tables in word processors a little more than the basics, you also know that in effect, a table can be designed so that it does not look like this, and indeed, can be used as a method of controlling the positioning, and formatting of text, or other data, within the rest of the document. In HTML, things are much the same. Yes, a table can be used to display data in a spreadsheet style format, but it also can be used to control the positioning, formatting, and appearance of text or other information, as we are doing with this table.

We aren't displaying any data like a spreadsheet but are simply attempting to control how our marquee is displayed to an end user, so that it has a more pleasing appearance, and so that we can control where it appears on the page. Remember this, because, in a few minutes, we will be doing more of the same for the rest of our title frame's contents.

OK, back to the `<TABLE>` tag used above. Although it may look complicated, and in some cases the defining parameters for a table can be quite complicated, like the `<MARQUEE>` tag and its parameters, they can also be rather simple to understand. The ones we are using in this example are in this latter category...

The first thing we want to do with our table is limit it in size or do we want it going from one side of the page to the other. Sometimes this can be useful, but in our case, it doesn't look all that great so we control this by using the `WIDTH=` parameter. For our purposes, I have picked a width of 70% of the total width of the page. There is no real logic or reasoning behind this choice, other than it satisfied my own personal sense of "look" when I tested the source code in my browser. Furthermore, since the table is, in our source code, part of that section surrounded by the `<CENTER> </CENTER>` construct, the table itself will be placed central 70% of the page width on the page.

The next two parameters are some of those for the `<TABLE>` tag which are used to control the appearance of the cells of the table, and how the data within that cell is to be displayed. In our case, we are only using two parameters, `CELLPADDING=` and `BORDER=`. Our first parameter, `CELLPADDING=4`, tells HTML that we want the data to be displayed in the cells of the table to have a 4 pixel buffer area around it, so that the data in the cell does not touch any of the sides of the cell when it is displayed. The second one, `BORDER=4`, defines a border



around the table which is 4 pixels wide, and which gives the table something of a 3D effect. It appears to stand out somewhat from the background of the page, as if it were an object placed there above the background, which, of course, it actually is. A word of caution! Be very careful with this parameter. I have found 4, or maybe 5, to be about as high as you want to go, even though you can set higher numbers. Above 4 or 5, the border displayed for the table begins to overpower the data that the table holds, destroying the effect of the table on the page. So please be careful with this parameter. Test in your browser and on your local machine any page you design where it is included before you upload that page to your Web site.

The last parameter used in this table is the **BGCOLOR=** parameter, used to set a background colour for the cells of the table. Without this parameter, the background of the cells of a table are the same as that of the page they are displayed on or in our case, wall.gif. In many cases, this may not be a problem, and indeed, may even be desirable. However, if you recall, I mentioned earlier that the **<MARQUEE>** tag places the text of the marquee on a gray background as it scrolls, which tends to stand out from the rest of the page a little much. This also applied to the table cell, in a slightly different fashion, but just as unpleasant to the eye.

To reduce this, I decided to use the gray background for this table or the same gray as is used by the **<MARQUEE>** tag, so that it blends in, and does not stand out so garishly. To do this, I used the **BGCOLOR=** parameter, and set it to value **#C0C0C0**, which is the hex value of the same gray used by **<MARQUEE>**. Overall I found the table which resulted here to be reasonably pleasing to the eye, and effective in both Internet Explorer, and Netscape.

There remains one more HTML tag in this source that we haven't yet discussed, and it is fairly simple, and part of the table coding. That tag is `<TD>` `</TD>` and it is used to tell a browser what to display as the contents of the cell, and how to display it, within limits. In our case, we are using `<TD ALIGN=center VALIGN=middle>` which simply put, tells a browser to display the contents of this cell centred both vertically and horizontally.

I can see some of you yawning and starting to fall asleep, which tells me that I am becoming a little long winded. If you'll hold on for a little bit more, we'll finish up for this month.

Our title frame is not yet finished, and is in need of one more thing... a method to be used by the remote viewer to navigate the site or to move from page to page of display, when we have more than one page to view. For this, we are going to fall back on another table, with multiple cells this time. Each cell is holding a link to one of the pages on our site. There will be two major differences between this table's settings and those we have already used. The first is the lack of the `BGCOLOR=` parameter, as, for this table, the background of our page (wall.gif) is acceptable. The second will be the addition of a new parameter, `CELLSPACING=`. This new parameter simply tells HTML how much of a border to display between the cells of the table. As with the `BORDER=` parameter, be careful of the settings for this one. It doesn't take much to make an apparently huge border between the cells. In our title frame, I found 2 to be more than adequate.

Since we don't yet have multiple pages to display in our second frame, we won't insert links to those in our second table, but will simply use

WW

text to hold our place until we can put the links in later. The code which we now have for our title frame, is .....

```
<HTML>
<HEAD><TITLE>Title</TITLE></HEAD>
<BODY BACKGROUND="images/wall.gif" TOPMARGIN=0 LEFTMARGIN=0>
<BASEFONT FACE="Times New Roman" SIZE=3>
<CENTER><H1><FONT COLOR="#FF0080">The WindoWatch HTML Tutorial Practice
Page</FONT></H1>
<TABLE WIDTH=70% CELLPADDING=4 BORDER=4 BGCOLOR="#C0C0C0">
<TD ALIGN=center VALIGN=middle>
<MARQUEE ALIGN=MIDDLE BEHAVIOR=SCROLL DIRECTION=LEFT LOOP=INFINITE
SCROLLDELAY=1>Welcome to our practice page. This is an example of a framed page,
from columns 5 and 6.</MARQUEE>
</TD></TABLE><P>
<TABLE WIDTH=80% CELLPADDING=4 CELLSPACING=2 BORDER=4>
<TD ALIGN=center VALIGN=middle>Starting Page</TD>
<TD ALIGN=center VALIGN=middle>Second Page</TD></TABLE>
</CENTER>
</BODY>
</HTML>
```

As you can see, the only change to the code here is the addition of a second table to the title frame, which will eventually be used for our links to load other pages into the lower frame of our site. Since the code used for this is an extension of that we used for the marquee

table, I will leave it with you, the reader, to decipher it to your own satisfaction.

And with that, we will leave any further discussions of coding to next month, before we all fall asleep. Before we go, there is one last, small bit of coding which we will do of a basic and simple start to our wwmain1.html file. If you recall from last month, and the beginning of this article, that is the file which by default, gets loaded in to the second frame on our site. We will, of course, expand further on this, and other pages to display in that second frame, in future columns, however, for now, I wanted to supply you with something to fill the second frame in case you decide to try coding these files yourself, and want to test them out in your browser. Here is that wwmain1.html file which is (and not to forget) VERY basic.

```
<HTML>
<HEAD><TITLE>WW Main1 Page</TITLE></HEAD>
<BODY BACKGROUND="images/wall.gif">
<BASEFONT FACE="Times New Roman" SIZE=3>
Welcome to the WindoWatch HTML Tutorial Web Site!
</BODY>
</HTML>
```

Again, I will leave it to you to figure out this very simple code, and what it does.

Next month, we will expand on this file, create a couple of others that can be displayed in the lower frame on our site, and then add links to our title frame, so that people can navigate between our pages.

*As some of you have already noticed, we are beginning to post the earlier tutorial sections to the [WindoWatch](#) home page. Gregg's well known scripting skill is turning that part of the homepage into a very busy place. We invite you to stop by too. Gregg Hommel is a member of the [WindoWatch](#) Editorial board and the HTML editor.*

---

## **Web Counters**

**Copyright 1997 by Lynn Alford**

**One of the more popular questions and discussion topics in comp.infosystems.www.authoring.html is "How do I put a counter on my page?" The following represents a summary of the discussions on this topic with more to follow if people are interested.**

**What is a counter?**

**It is a piece of software used to keep track of how many times a page is accessed. There are several forms of counters. There are services that provide free counters; <http://www.digits.com> is quite popular. There are CGI scripts that can provide counters. There is at least one Java program that will do the same task.**

**There are also associated problems with the counters. Counter services usually depend upon the user loading a graphic from their site to their computer. If the user has turned off graphics for any reason, then their access will not be counted. (As a note, I've checked my pages and about 20-25% of the time people are not loading the graphics associated with the page.) Additionally, if the counter service is popular, the graphic may be slow to load, or worse, not load at all. If it fails to load before the user leaves the page, you may have missed another count.**

**Java programs will not count accurately if they depend upon the browser to initiate the program. There are still a large number of browsers that do not understand Java and are unable to activate a Java program or Java script.**

CGI counters can be quite accurate, but usually you need access to the CGI-bin or have a webmaster willing to set up the counter for you. Some are and some are not willing to provide this service.

The most accurate count of all is to use a log analysis program on the server log files, if you have access to that information. There are a number of these programs available, Yahoo! has a good list of them if you are interested in finding one for your platform.

Why can your count *never* be accurate?

Well it's simple. Your hit count is always an approximation which can show you in relative terms which pages are most popular and which are less so. But it cannot show you absolute values. The reason is that as the web has grown, so have various methods to reduce traffic. One method implemented by many sites is caching web pages. Once a web page is cached for a site, it is that cached page that will be sent to local users of the system. For the time that page stays in a remote system as a cached copy, you won't see the hits to the page from other users coming in from that site. Is this likely to be important? As an example, it is said that one of the biggest cache systems around is for America Online users. One hit from AOL could mean dozens or even thousands of hits to that page. But you only see the one hit that transports the page to the cache.

Counting hits is fun, watching your pages grow in popularity (we hope) is very entertaining, but remember, all you will get is relative information. Oh, and do refrain from putting counters on every page. You may be entertained by knowing how many people visit your page, but does the rest of the world really need to see it? Generally, it gives a bad impression of the site to leave counters sitting around everywhere.

*Lynn has promised a more in depth look at this subject if there is interest. Drop her a note at [imla@jcu.edu.au](mailto:imla@jcu.edu.au)*

## **WordBasic Basics Part 2: Beginning a Dialogue**

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### **Introduction**

Once you begin writing macros for others to use, you will reach a point where you need to communicate with the user. Sometimes the user might even be you! WordBasic offers several options and, of course, several levels of complexity for you to begin a dialogue with the user of your macro creations. Sometimes the communication is merely a courtesy, informing the user that a task is about to begin or is now complete. Other times, you need the user to choose a path which will determine which direction the macro takes. Finally, in true interactive fashion, there will be times where you solicit information from the user in the form of words or numbers. This information is then fed to the macro, and indeed, is needed for the macro to complete its purpose in Word life.

I'll begin with a look at the simple, but effective message box. The message box can be used to update the user or to determine a macro path. Next, the Input Box, as you may have guessed from its name requires input from the user... usually. Finally the custom dialog box can be used to gather information in the form of choices, check boxes and text boxes, along with the more versatile drop down list boxes and

combo boxes. I'll leave it to a future article(s) to tackle dynamic dialog boxes, which are those that change their appearance based upon choices made by the user.

### Message Boxes

A message box can be a simple way to tell the user that a long macro is about to start or has just finished. It can tell the user that everything is fine, or stop the user—and the macro execution—to require something be done by the user before it can finish.

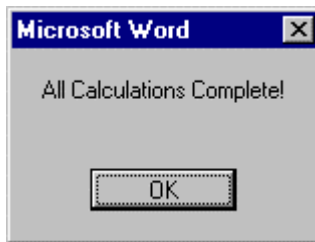
In its simplest form, the message box is easy to 'program.' It takes the form:

```
MsgBox Message$
```

To let a user know that all calculations completed successfully, you might have this line at the end of the macro:

```
Sub MAIN  
MsgBox "All Calculations Complete!"  
End Sub
```

Just that one line produces this result:

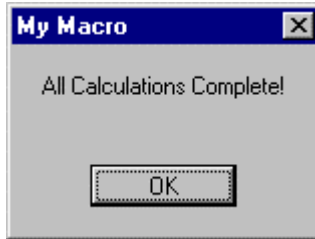


...no decisions, no customization, just information. You might want to change the title of the message box from the generic "Microsoft Word" to something that matches your macro 'theme.'



```
Sub MAIN
MsgBox "All Calculations Complete!", "My Macro"
End Sub
```

**This minor change alters the header of the message box.**



The last option available to message boxes is the buttons to be displayed. And, of course, you can add symbols to spice up the appearance. Once you start adding buttons, you need to tell the macro how to react to a different button being pressed. Until now, clicking on the OK button basically just dismissed the message box from the screen. When you add a second or a third button, you are putting in the framework for a decision choosing macro. At that point, the message box reveals its true versatility.

### **Message Box Armament**

The final parameter to the message box command is a number for 'Type.' This one value is used for additional buttons, display of symbols and setting the default button. OK doesn't have to be the default button, i.e., the button that is selected if the user just presses the enter key. Sometimes OK isn't even one of the choices. Here's a list of numerical values that can be added as a third parameter for Type.

<b>Group</b>	<b>Value</b>	<b>Meaning</b>
<b>Button</b>	<b>0 (zero)</b>	<b>OK button (default)</b>
	<b>1</b>	<b>OK and Cancel buttons</b>
	<b>2</b>	<b>Abort, Retry and Ignore</b>
	<b>3</b>	<b>Yes, No and Cancel</b>
	<b>4</b>	<b>Yes and No</b>
	<b>5</b>	<b>Retry and Cancel</b>
<b>Symbol</b>	<b>0 (zero)</b>	<b>No symbol (default)</b>
	<b>16</b>	<b>Stop symbol</b>
	<b>32</b>	<b>Question symbol</b>
	<b>48</b>	<b>Attention symbol</b>
	<b>64</b>	<b>Information symbol</b>
<b>Button action</b>	<b>0 (zero)</b>	<b>First button default</b>
	<b>256</b>	<b>Second button default</b>
	<b>512</b>	<b>Third button default</b>

*(Note: There are also some negative type values which cause Word to display your message in the status bar instead of in a message box.)*

**The simplest addition to our message box macro in progress would be a symbol. The information symbol (type value = 48) seems appropriate.**

```
Sub MAIN
MsgBox "All Calculations Complete!", "My Macro", 48
End Sub
```



So far, all straightforward, right? Get ready for a little curve ball. If you want to add another button, it is implicitly assumed that you would want the macro change its action based which button was clicked. If you posed a question with a Yes or No answer, the macro clearly has to react differently for each case. If OK and CANCEL are the two choices, then CANCEL had better stop execution of the macro. The user is bailing out. So should the macro.

Your first question probably is: How do I know which button was clicked? If you are a forward thinking person, you might be wondering how to combine that attention symbol with additional buttons. Second answer first. If you look at the Type table above, you will notice that three sections: Button, Symbol and Button action. To have a Yes and No button (type value 4) combined with an attention symbol (type value 48), you add the two type values together, i.e., 52. To make the No button the default, you would add 256 to that, i.e., 308.

Simple, right? Well, not *too* complicated. Rest easy. Some examples will follow. But first, there's the matter of the—*How do I know which button was pressed?*—question. In WordBasic, commands followed by a pair of parentheses return a value. By testing this value, your macro can take the appropriate course.

The answer or selection made is assigned to a variable. For example,

```
ans = MsgBox("This macro will take an hour. Proceed?", \
    "My Macro", 52)
```

(Note: the “\” character is used to continue a macro across a second line. Also note: in Word 97’s Visual Basic for Applications 5, the continuation character is an underscore.)

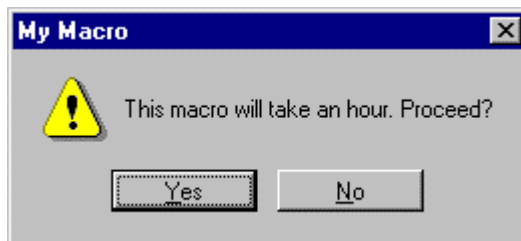
**Before we incorporate this message box command in a real macro, you need to know what form the answer will and what the macro should do based upon that answer.**

#### **Return**

<b>Value</b>	<b>Button Chosen</b>	<b>(Possible) Button Text</b>
<b>-1</b>	<b>First (leftmost) button</b>	<b>OK, YES, ABORT</b>
<b>0 (zero)</b>	<b>Second button</b>	<b>CANCEL, NO, RETRY</b>
<b>1</b>	<b>Third button</b>	<b>CANCEL, IGNORE</b>

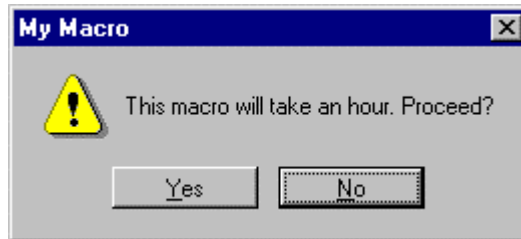
**When the user clicks a button or simply accepts the default button, a value of -1, 0 or 1 is “returned” by the message box to the macro. You test this value to determine the course of the macro. Based upon that, we can add to the macro as follows:**

```
Sub Main
ans = MsgBox("This macro will take an hour. Proceed?", \
"My Macro", 52)
If ans = -1 Then
' Do lots of calculations!
End If 'No was selected, end macro
End Sub
```



**Of course, this macro just has a comment line if YES is selected for the sake of simplicity. In the real world, some serious macro grinding would begin with a click on YES. If you know this is something your users rarely do, and don't want to dump them into a macro vortex willy-nilly, you can make NO the default button choice, so that a**

**quick click results in nothing happening instead of macro hell. That's a simple change, add 256 to the 52 type value**



**That simple changes moves the ‘highlight’ or selection box to the No button. Since a “no” response requires that this particular macro simply end, I test for a “yes” answer and act upon that, otherwise the macro just ends.**

**If you need to have a separate group of instructions for “no” followed by a group of instructions that are followed after either answer, you could use an If - Else - End If construction.**

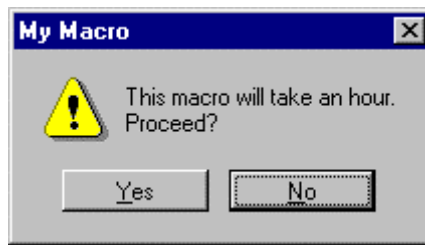
```
Sub Main
ans = MsgBox("This macro will take an hour. Proceed?", \
"My Macro", 308)
If ans = -1 Then
' Do lots of calculations if YES!
Else
' Do other stuff if NO
End If
' Then do these other things
End Sub
```

**If your messages get a little more complicated, you can put carriage returns (i.e., line breaks) in the message displayed using the Chr\$(13) character.**

```

Sub Main
ans = MsgBox("This macro will take an hour." + \ Chr$(13)
+ "Proceed?", \ "My Macro", 308)
If ans = -1 Then
' Do lots of calculations if YES!
Else
' Do other stuff if NO
End If
' Then do these other things
End Sub

```



**After working with message boxes for a while, you will realize what starts out as a simple tool to convey information can be the launching pad for a fairly sophisticated macro.**

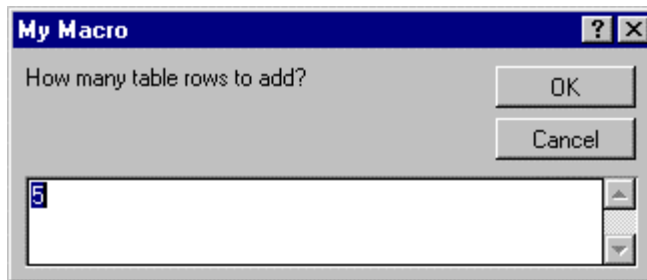
### **Input Boxes**

**Unlike a message box, an input box requires a return value. That is its purpose in life: accepting input! Hence the name. You are limited to a maximum of 255 characters in a response. Input boxes return string responses, which usually means text. You can convert a string to a true numeric value by using the Val() command. I recently used an input box which asked the user how many rows to add to a table. The user would enter a number, which I converted to a true number using Val().**

**Input boxes let you specify a default value, and they allow the user to enter more than one line of text. What can happen is that you get an extra carriage return. You can use the `CleanString$(input$)` command to clean up various excess characters from an input boxes response.**

**My table row input box macro looked like this:**

```
Sub MAIN
ans$ = InputBox$("How many table rows to add?", \
"My Macro", "5")
End Sub
```



**Note that the default value of 5 is in quotes. It is treated as a text string. I wanted to use this value as a loop counter to add rows. That requires that the text of “5” be converted to a number of 5. You can accomplish that after getting back ans\$.**

```
ans = Val(ans$)
```

**Or you can do it in one step:**

```
ans = Val(InputBox$("How many table rows to add?", \
"My Macro"))
```

**You’ll want to put in an error handler in case the user CANCELs the input box. (*Note: when you’re developing macros its always a good idea to “test” it by doing the unexpected to see how gracefully your macro crashes — er, exits.*) Here, you can enter the following command on the line before the ans= line**

On Error Resume Next

**This should stop an error from occurring on a user CANCEL. The input box can accept text, unlike the message box. However, you can't change which buttons appear, and the default insertion point is on the input area. You can tab from this area to the OK button. Pressing return in the input area just adds a new line!**

### **Dialog Boxes**

**Dialog boxes are the big leagues. To use a Star Trek metaphor: so far we've been cruising on impulse; we're about to engage the warp drive. Well, for space and time considerations, we'll just engage warp factor one. However, you should know that custom dialog boxes give you a lot of flexibility. You can basically duplicate anything you've ever seen on any of Word's built-in dialog boxes. You can have text labels, text boxes, drop-down list and combo boxes, radio buttons, check boxes, picture previews, etc. Beyond display and reacting to all these various controls, dynamic dialog boxes let you enable/disable or show/hide various sets of controls based upon user input *while* the dialog box is displayed.**

**Dialog boxes could be a topic for a complete article, probably several articles. I believe dialog boxes are so complex and versatile you could have an entire book devoted to their construction and functioning. *(And just to make things more difficult, Word 97 completely changes the rules. Dialog boxes are replaced by UserForms, which use the new macro programming language in a completely different way. The good news is that the decrepit old Dialog Box Editor goes the way of the Dodo bird in Word 97.)***

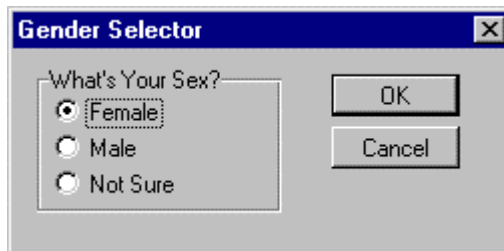


**For the purposes of this section on dialog boxes, I won't go into the strange workings of the Dialog Box Editor. And, as noted above, I won't go into the more complex topics of dynamic dialog boxes and dialog functions.**

### **Warp Factor One: Engage!**

**To tackle dialog boxes at the easiest level, we need to create a simple dialog box. For this example we'll use three Radio Buttons within a Group Box.**

**Since dialog boxes quickly get more complicated than either message or input boxes, I'll show the final result first. Witness, the Gender Selector:**



**I could have made this simpler by just having a text label and a text box, but you've already seen that with the Input box. By using radio buttons, this example introduces several new concepts, primarily exclusivity.**

**To create this dialog box, you define what goes in it between the Begin Dialog and End Dialog commands. In addition to the Radio Buttons and the Group Box, you will notice the “Go” and “Stop” buttons, i.e., OK and CANCEL. If the user selects OK, i.e., -1 is returned by the dialog box, the macro should proceed based upon the users selections;**

otherwise the macro ends... or moves along to another section of the macro.

**Radio Buttons**, named after the car dashboard radios let you select one ‘preset’ station from a choice of several, that number depending on the quality of the in-dash radio. However, you can only select one station at a time. That’s how these radio buttons work. You can only select one at a time. (*Note: to allow multiple selections, use checkboxes.*) To make each Radio Button an ‘exclusive’ choice, you need to put them in the same option group. This is an important concept because it is possible to have more than one set (or group) of radio buttons in a dialog box. In my example, you could have another set of three buttons referring to age: *Under 25; Over 25; and You Think I’m Telling You?*

Without further ado, here’s the code to define the dialog box shown above... you don’t have to feel guilty if you looked ahead! Keep in mind, at this point, all the macro does is *display* the dialog box. No functionality yet.

```
Sub MAIN
Begin Dialog UserDialog 328, 92, "Gender Selector"
  GroupBox 15, 7, 163, 68, "What's Your Sex?"
    OptionGroup .OG1
      OptionButton 25, 19, 83, 16, "Female", .OB1
      OptionButton 25, 36, 65, 16, "Male", .OB2
      OptionButton 25, 53, 96, 16, "Not Sure", .OB3
    OKButton 209, 11, 88, 21
    CancelButton 209, 35, 88, 21
End Dialog
Dim dlg As UserDialog
x = Dialog(dlg)
If x = - 1 Then
End If
End Sub
```

**You'll notice the custom name "Gender Selector" replaces "Microsoft Word" in the first line. The numbers specify the width and height of the dialog box. The dialog box itself is centered by default. Let's leave it that way. GroupBox, OptionGroup, OptionButton, OKButton and CancelButton are all system names. The number parameters after each of the visible controls refer to Horizontal Position and Vertical Position from the upper left of the dialog box, followed by width and height. The unit of measure is in strange fractions of the system font size and is, for all intents and purposes, completely impractical to the human brain. Just go along with it. The tab order of the controls is controlled by their order in the macro. *(Note: In Word 97, you have more control over the tab order of controls. All I can say is: about time.)***

**For the Group Box and OptionButtons you also provide a text value. Finally, the controls are assigned an identifier so that the macro knows Male from Female, etc., even if you have no problem with that distinction yourself. You can make up your own names for these controls. Think of the names as variables. I chose abbreviated versions of .OptionGroup1 to get .OG1 and .OptionButton1 to get .OB1 (Sorry, *OBI* is not a "Star Wars" reference.) Note that the three OptionButtons follow the OptionGroup control, which is an invisible but crucial control, to identify the group and enable the exclusivity of each choice. If you had a second option group and one of the members ended up under this OptionGroup line, you would have an oddly functioning dialog box. Trust me.**

**Next, let's look at the command lines that display the dialog box:**

```
Dim dlg As UserDialog
x = Dialog(dlg)
If x = - 1 Then
End If
```

In the first statement “dlg” is the shortest recognizable abbreviation of dialog. You could use a different name. The rest of the line is required. That dialog record is assigned to “x” so that we’ll know whether OK or CANCEL was pressed. If  $x = -1$ , then OK was chosen. Otherwise the dialog box was probably considered too personally intrusive and cancelled by the user.

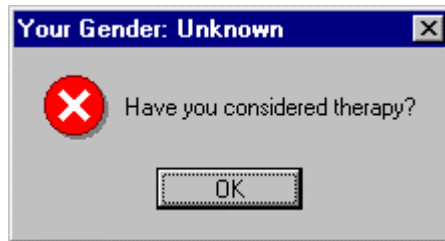
The bulk of the work for the dialog box will occur with an OK click. At this point there is nothing between the If and the End If statements, so clicking either OK or CANCEL do nothing. Obviously we want to react to differently (I suppose...) to whichever radio button was selected when OK was clicked. We have three mutually exclusive choices: Female, Male or Not Sure.

To keep the example still on the simple side, which assumes I haven’t lost you yet, we’ll just set up this example to display a different message box depending on the answer given to the Gender Selector. We’ll use the Select Case... End Select to determine our response. We have three possible “cases” in this example. The tricky part is that Word starts counting at zero. So *Female* would equal a result of 0, *Male* would equal 1 and *Not Sure* would equal 2.

You would put this Select Case construct between the If... End If statements, i.e., the values (results) are used if the user clicks OK, not CANCEL.

```
Select Case dlg.OG1
  Case 0
    MsgBox "What a Lady!", "Your Gender: Female", \
      48
  Case 1
    MsgBox "What a Gentleman!", "Your Gender: Male", \
      48
  Case 2
    MsgBox "Have you considered therapy?", \
      "Your Gender: Unknown!", 16
End Select
```

**Paste this code into the macro in progress and you will see a different message box depending upon which gender is selected.**



**Notice that I did change the symbol displayed for the final option by changing the type value from 48 to 16.**

**That's it for an introduction to the powerful capabilities of custom dialog boxes. Believe me, this only scratches the surface.**

### **Conclusion**

**Message boxes are best used for updating the user or providing a simple decision the user needs to make.**

**Input boxes accept user text up to 255 characters, which can be converted to a number to be used in a counter loop, for example. Input boxes are often the quickest way to get a single piece of text from the user.**

**When you need more information or multiple blocks of information from the user, you will find that one well-designed custom dialog box does a much better job at collecting it than a series of input boxes or dialog boxes. Remember, you can use check boxes, drop-down list boxes and picture previews in dialog boxes.**

**Your macro's decision-making trees will no doubt be less frivolous**

**and more involved than my examples. But the outcome of my decisions was secondary to showing you how to understand which selections a user made. I hope this article gives you a head start or at least a quick start on how message boxes, input boxes and custom dialog boxes can be used interactively with the user—even if that user happens to be you!**

*Passarella keeps getting better and better! Jack is indeed a formidable WordMan with a penchant for wit and style. It is because his WordBasic pieces are so popular that we encouraged him to go on with this project and have put together Jack's Words on the [WindoWatch](#) homepage. If you've not been there you should stop by. Jack is a regular Contributor to the magazine and can be reached at [jpassarella@snip.net](mailto:jpassarella@snip.net)*

## **DETOURS ON THE EDUCATIONAL SUPERHIGHWAY**

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In this article, I will attempt to cull my memory (and others') for the misadventures I/we've run up against in using computers in an educational environment. From these experiences, others may find useful lessons in what to do, and, more important, what NOT to do when setting up a computer system for a school.

### ***FIRST DON'T: Paint Yourself into Corners***

Change comes in three modes:

1. Evolution (slow)
2. Revolution (fast)
3. Inchoate (incomprehensibly fast)



Evolutionary change occurs over time spans so long as to be imperceptible: how did those oceanic fossils wind up in the middle of Arizona, for example? Revolutionary change takes place in time frames shorter than a generation but longer than a teenager's infatuation.

Obviously, neither of these definitions applies to modern computer technology, where change takes place so quickly as to be almost impossible to keep pace with. The competition for, and discovery of, niches is so fierce that legions of designers and programmers are cranking out new, wildly-radical software at a pace that rivals that of

**Stephen King's literary output. Today's hot new product becomes obsolete almost before you can rip off the shrink-wrap. Trying to keep up can be as frustrating and mind-numbing as trying to make sense of a rock video. Things are coming at you too fast and from too many directions.**

**What this means to anyone who's about to launch their school into educational computers is: plan for chaotic changes. Try to set up a system that's coherent: where all parts understand and work with all other parts and is open to updating.**

**This may seem self-evident, but it's amazing that so many organizations wind up with so many incompatible components that it's impossible or financially unfeasible to connect them into a harmonious whole, rather than a black hole, a few years down the road. There needs to be a system *czar*, for want of a better term, who's got the responsibility and authority to impose order and rationality. If such a person doesn't exist, it's very likely that each department or sub-unit of the organization will make its own decisions, either ignorant or disdainful of what other departments/sub-units are doing. The result is riotous disorder, with hardware that doesn't work with the computers across the room, and software that produces files unrecognizable to similar programs on dissimilar platforms.**

***SECOND DON'T: Provide Insufficient Financial Support***

**The current overworked cultural cliché is "Show me the money!" Unfortunately, when it comes to setting up a decent computer system, this tired aphorism rings all too true. If, as the old song has it, "romance without finance is nonsense," then building a school computer system with nickels and dimes is also folly. Working with**



shoestring budgets almost guarantees that what you'll get is a hodge-podge of kludgie hardware and software, purchased at bargain basement fire sales and cobbled together with chewing gum and baling wire.

This is bad enough when you're dealing with stand-alone computers. When you're buying network components at tag sale prices, you're headed for disaster. A recent example from real life is illustrative: having decided it was time to make the leap into Windows 95, the school's computer staff made that all-too-familiar *one simple change*, only too see the house of cards they'd spent so many years putting up come tumbling down in a jumbled heap. What had been a computer network looked more like the *apres-fall* Humpty Dumpty.

A corollary to this is to hire as few support people as possible, and give them as little training as you can get away with. This guarantees that when things go wrong, as will inevitably happen, the effects will be widespread and long-lasting. Nearly everyone will be damaged, from faculty to students. About the only ones not directly hit will be the janitorial staff, but that could change if, more likely *when*, the students get sick of having no computers to work on and institute a lawsuit demanding their money back (with interest). Compounding the damage, word gets around that your school can't deliver what it promises. This kind of buzz can cause damage that can linger for years.

By spending as little as possible, you also create a penny-pinching atmosphere that will make your support staff think twice, if at all, about asking for help from outside experts. Rather than risk the wrath of the bean-counters, they will wait until the crisis is at the

**explosion point before admitting it's beyond their technical expertise and call in a hired-gun consultant.**

***THIRD DON'T: Practice Benign Neglect at the Highest Levels***

**It is said that things rot from the head down. Therefore, to ensure failure in incorporating computers into education, the school's top level administrators, including the president, should be blithely unaware of, if not downright hostile to, the implications of high technology.**

**Having no top-down direction or high-level policies will create the sort of anarchy that is guaranteed to destroy any hope of putting digital technology to good pedagogical use. Above all, avoid publishing any procedures relating to the area of computers in your classrooms, so people will have to figure out what to do when problems arise: Who do they call to fix a software glitch? Who's responsible for the care and feeding of hardware? Which programs or platforms should be used for which labs and/or courses? The possibilities for chaos and confusion are limitless.**

***FIRST (AND ONLY) DO: Avoid All the Don'ts Listed Above***

**Difficult as it is, as an administrator in charge of leading your school into the next millennium, you have the responsibility to become at least a little computer-knowledgeable. You should, at minimum, understand the basics (that there's a difference between an IBM PC and an Apple, for instance). You need to set up and enforce policies and procedures, and make sure your staff and faculty understand their responsibilities. It's boring as dirt, but you can't succeed otherwise.**

**If you're not the administrator, but are the technology guru, you need to help the people with their fingers on the purse strings appreciate what you and the school need if you are to provide the kind of service and support required to make it work. Insist that your budget be big enough to provide user support and that it not be spread too thin or lack in training. Don't be bullied by the green eye-shade crowd into taking crumbs when you need the whole loaf. On the other hand, don't get greedy. The goal is to support the computer systems in the school, not to build an empire. Be ready to prove that your demands are reasonable: do your homework; use those spreadsheet and presentation programs to prepare the documentation you need to convince and persuade.**

**If you're on the faculty, don't be afraid to volunteer for committee work related to computer topics. You need to make your voice heard on issues that affect your ability to teach, and your students' ability to learn. If the students are constantly frustrated by balky hardware or unusable software, they will quickly revolt. The equation is simple: no computers = no students = no courses = no job for you. It's crucial to act, not to react when it could be too late. Corny as it sounds, you have to stay ahead of the curve.**

*Frank McGowan is a college teacher, a former science writer and computer consultant. His straight from the shoulder, no nonsense approach to educating students about computer technology comes at a time when volunteers are stringing coaxial cable all over America in the name of putting our schools on the Internet! Do we really mean to do this? Yeah, - sure! Frank is a contributing writer to [WindoWatch](#).*

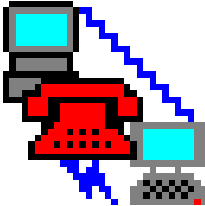
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*WebTV has Arrived ...*

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Reflections of a ModemJunkie  
Copyright 1997 by **Leonard Grossman**

**I don't really feel like writing right now. What I feel like doing is sitting back in an easy chair and surfing the Web on a giant screen. No keyboard, no supposedly ergonomic desk chair. No reading glasses to squint at the text. Just lying back in the comfy chair and pointing a magic wand across the room.**

**I did that just the other night. It isn't a fantasy and it isn't out of reach. But to begin this tale, let me go back a few weeks. I was checking out the guest books on a couple of my sites. One of my sites had seven new entries. On closer examination they were all from one e-mail address. The address of a couple I know -- a retired couple of a certain age. A couple which had never owned a computer and, until now, was never likely to own one. And the address was @webtv.net.**

**WEB TV!! WebTV? Horrors! What is an old modemjunkie like me doing even talking about that toy. Who would want a limited hunk of metal like that? Why not get a real computer and get with the program?**

**The answer: Lots of people. And they are becoming the program.**

**WW**

Just as the Web has drastically evolved in the 3 years since Mosaic first came on the scene, it will continue to change. Although advertising with [www.xxx.com](http://www.xxx.com) has become ubiquitous, there is a vast potential audience of folks who are afraid of computers and have no interest in sorting out initialization strings and downloading new software every few weeks. But they have been trained on t.v. to sit back and enjoy. And they will want to see what this Internet is all about.

Many of them would never do this on their own, but one way or another they will get hooked. In my friends' case. Their son gave them the WebTV box for a present. Within a few weeks their 19 inch T.V. was replaced by a 32" model. And from looking at my hit record alone, I can tell they are hooked.

We talked about it and they invited me over. "Sure," I said rather condescendingly, "I'll take a look." I really doubted that this could be a worthwhile experience.

But there I was the other night, lying back on a big white sofa, munching snacks and looking up at some of my favorite pages. The beautiful <http://www.mcs.met/~grossman/rose.htm> rose filled with snow on one of my pages looked great up there. More to my surprise, my other pages rendered perfectly. The images appeared where I expected them, the colors were great, text was readable, if not really sharp. Zap!! All I had to do was click on the remote and I could move forward or back, up or down. Following links was easy. And it was fast -- with cute but not too obtrusive sound effects and graphics to camouflage waiting time.

Search forms worked, although at first I wondered how I could enter text from the chair. It turns out there are two possibilities. A click pops up an on screen keyboard. Point at the letters and it is possible

to type in a primitive fashion. But, my friends were already so hooked that they had bought a standard keyboard, -a good old IBM type ! Remember that metallic click that let you know you had typed some thing? They had added extension cords long enough to reach that sofa all the way across the room. Click on the wand and zoom! an e-mail form appears. Just type in your message and send it on it's way.

There are some features that are not implemented yet, like frames and the Web TV browser does not like pages that require fixed page widths. If you want to follow the news groups you will have to use an HTML format like DejaNews for now, but WebTV promises new features in the near future. There is a little slot in the front of the box for upgrades. I haven't looked to see if it takes software or hardware.

Subsequent to writing this article I have learned that WebTV has added a newsreader and has some frames capability. I am also told the slot is for use with a "Smartcard".

If they hadn't promised to include frame capability, I would really be pushing it. Nothing could be better for the future of the Web than a vast audience without frames capability. Page developers would have to go back to sound design. But my prejudices are showing, so let me get on with the story.

Is this the way I would want to get online?. Not really -- not most of the time. But for a large segment of the public who are afraid of computers or simply have no interest in them, the Web TV is a welcome tool. We look down our noses at this possible audience at our own peril. And it wouldn't surprise me if many in that audience will find that the Web TV is the Trojan Horse by which computers slip quietly into their every day lives.

And there are sites which work especially well on the giant screen. There are many new *concept* pages which do not require frames or Java which should look great on the large screen. For starters try <http://www.futile.com> "Futile" or <http://www.zow.com/colabart/kabbalah.htm> "Kabbalah" This is the kind of gray, damp, lazy Saturday afternoon on which it would be great to stretch out in that comfy chair with a bowl of chips and a bottle of something and just point a magic wand.

## Culture Shock

The foregoing story is another example of the vast change going on in the culture of the Internet. As I have noted before, a couple of years ago the news groups were full of negative comments about *newbies* destroying the culture. A message with an AOL address on it was sure to get automatic derision regardless of its content. Today that would be foolhardy. But there are aspects of the culture that are worth preserving and fortunately still survive.

Not that long ago a primary aspect of that culture was the concept of sharing. The idea that everything had a price, the idea of commercial sites with passwords and fees was anathema. Well, that is changing, but it also lives on.

The counter service I am using is about to become more expensive so I began to look into ways of analyzing my hits locally. It took some searching but eventually I found Analog2.11, a program in C which can compile in your own web directory. It generates its results by analyzing the html.log maintained by your provider and produces its results in HTML. It is very powerful and it remains free. Not just free to evaluate but FREE! To see an example of its output. Go to <http://www.mcs.net/~grossman/output.htm> and take a look. At the

bottom of that page is a link back to the source of the program. Go there for more information and to download the applicable file. I will give a more detailed discussion of Analog in the near future, after I play with its many configuration options for a while.

And while I am on the subject of the old culture, let me give another example. I was dismayed to discover, just after I registered Opera (boy that felt good - - an honest man at last...just like that day, half a dozen years ago when I registered Telix), that Opera does not support gopher. I was surfing weather sites, many of them are in the gopher format and I kept getting error messages asking me to define a gopher proxy. Unfortunately, my ISP believes a good browser should support gopher and doesn't have a proxy available.

I agree with him, but I also recognize that Opera is under tremendous pressure to add new features and at the same time retain its small size. I am also aware that I had been using Opera for some time and hadn't come across the problem. More and more gopher sites are converting to HTML.

So, in desperation I posted a note in a local newsgroup. Within hours I received a note from EnterAct, a competing local ISP. They offered to let my use their gopher proxy. I asked if they mind public thanks for their offer. They informed me they intend to keep it an open server. The old culture still lives.

*Grossman is a bridge person integrating his virtual activities with those of his real world of family, work, community ,and friends. A regular contributor to [WindoWatch](#), his ModemJunkie column is always a very pleasant surprise. His many pages are linked to<<http://www.mcs.net/~grossman>> Notes from a ModemJunkie. Leonard can be reached at [grossman@mcs.net](mailto:grossman@mcs.net)*



## **Discworld II Missing Presumed ...?**

From **Psygnosis**

Reviewed and Copyright 1997 by Lynn Alford

### **Brief Description**

This is a second game based on the fantasy novels of Terry Pratchett. Reading some of the Discworld novels is recommended before you try to play the game. Not necessary, but recommended because it will give you some idea of what to expect. If you have played **Discworld**, you will have some idea of what to expect. This game is much better supplied with hints as you try to solve the puzzles and so is much easier. Not that it is too easy, it is just easier than the first game.

You are Rincewind, a not very successful wizard of the Unseen University. Death is missing and without him, the dead are failing to stay that way and returning as zombies. You need to gather the materials so the archchancellor may use a ritual to call death. But will that be the end of your problems...

The game is in acts and you must accomplish certain goals to finish each act. Usually the goal is quite easy to determine, you are told the final goal. How to get there...that is the problem.

The main voice are by Eric Idle (Rincewind), Nigel Planer, Kate Robbins and Rob Brydon. The characters are entertaining and some very good lines are used in the game. This time around they've also thrown in a play on Eric's name, and some gratuitous Monty Python humour. Don't worry, you can't miss the latter, they tell you while the

scene is happening. Some of the game characters are new, others you've seen before.

If you have played Discworld 1, you'll notice that the graphics have improved, the sound *should* be better (one of the noticable bugs on my machine is real problems with the sound), and generally the game play has improved.

### **Game Play and Hints**

Pay close attention at all times to Rincewind's comments. Quite frequently, he is giving you a hint about the object you are trying to use or about the person you are talking to. In fact, you can tell one of the major complaints about the first game was the lack of hints, sometimes there's a very pointed, "Not that I'm hinting or anything," tacked on to the end of a comment..

When you don't know what to do next, try reviewing all the major locations. I couldn't finish Act 1 until I realized that there was more to Mrs. Cake's place then met the eye at first. Try talking to every character and use items from the inventory on each other or on something. Once again, Rincewind may well give you a clue as to what can be right, if you try something wrong.

As in the first game, do be sure to periodically use the cursor on Rincewind. He has a number of things to say when you 'tap' him with the cursor, most of them are interesting to say the least. Also trying to use items on Rincewind can provoke a few interesting replies.

### **Character Interactions**

This is exactly the same interface as the previous game. There are a number of characters in the game, and you'll need to talk with all of them. Conversations are icon-based. The standard icons are greeting, sarcasm, question, musing and goodbye. Musing is yet another place where they've loaded the game with hints. Sometimes there will be

additional icons available about specific things (candles, pyramids, and other items).

There are only a few characters that you'll need to talk to more than once. If you're stuck, it is more likely that you've missed an item, or an entire room than you need to talk to a character again.

### Gripes About the Game

Sound keeps doing very odd things on my computer. I have found a patch file that fixed the problem. In spite of the number of games that I own, this is the *first* time I've found the patch to be vital.

The box says that a 486 100MHz computer should be able to run this game. My computer was finding it difficult to process all the sound, movements and mouse-clicks at the same time. The patch improved the situation, but there were still times (the XXXX continent) where it was more reliable to use the keyboard rather than click a mouse button.

### Conclusion

A worthy successor to the first game. Long term adventure game players may find this one too easy, especially if you thought the first one was reasonably difficult. For the rest of us, this is a satisfying game. I'd say this game is best suited for mid-teen age and up, mostly because the level of play would be frustrating for younger players.

This game gets top marks for animation, sounds and puzzles. There are no critical timing puzzles, you cannot kill Rincewind, and most of the puzzles are fair. There were a few times when you might start using everything in the inventory just because you're stuck, (now why should I have guessed that those two items combined anyway?) but there are only a few of them relative to the first game. It is sometimes difficult to determine where additional rooms are but there are no pixel-hunt puzzles. Unlike the first game, I never needed a hint or walk-through file to solve any part of this game.

### Some Final Thoughts on the Game

Thank heavens, the game designers did learn from the first game. Not only were the hints much better in this game, but you didn't keep getting Rincewind saying "That doesn't work," over and over again. Instead, he gives you a bit of a reason why that doesn't work or what might work.

A much easier but equally funny adventure game is [Toonstruck](#). [Sam and Max Hit the Road](#) may also appeal to you. Also [Monkey Island](#) though that one isn't as easy to find these days.

Once again, from my archive of reviews, the following:

### Zork Nemesis

From: [Activision](#)

#### Brief Description

"You are my only hope," is the last thing you'll hear in the introduction to Zork Nemesis. You have been transported to a land where alchemy is real and many things are not what they seem. You'll need to look and listen carefully as sights and sounds are very important in this game. Turn off the lights, put on some headphones and be prepared to have your mind blown away.

This game is beautiful, both in graphics and in sound. You start at the entrance to the temple of Ancients. Explore the Temple to start learning the secrets of the Forbidden Lands and begin your quest.

The game includes notes from the last explorer of the Forbidden Lands, which give you a few clues as to where you are and what is

going on. As you play the game, you will be piecing together the story of four alchemists, their search for the philosopher's stone and a love story.

The music and sounds are amazing. This comment is from someone who is running the game in DOS mode. The game clearly states that some sounds and animations are only available in Win95 mode. When I started the game, I didn't have Win 95, and I don't feel up to installing the game again and possibly losing the saved game, just to see. Even so, the experience is quite something even in DOS mode, this game is something special.

Also the music and sound effects vary according to what location you are in at the time. I find the music of the Temple of the Ancients to be quite haunting. The sound effects of some of the other places can be scary (the Asylum), or somewhat annoying, Irondune, until you stop the war. The storyline behind the game is excellent, it isn't as much a plot-driven game as some, but I felt compelled by the story behind the game.

There are a number of other people in the game, but you never directly interact with any of them. Whenever someone (or scenes from the past) is there, it will be a cut-action scene that you just watch. The acting in the game is quite good, I rather liked Kaine and the voice of Nemesis is just incredible. It gave me the shivers when he unexpectedly starts saying something. Nemesis rather reminds me of Darkness from the movie Legend.

### Game Play and Hints

If you *must* have a point system in an adventure game, this is the type I prefer. There are a total of nine points in the game. You get a point for each major puzzle solved. That's it! Therefore you don't have to spend time looking at every item, making sure that you get credit for

each. You still can spend the time, and I recommend that you do so, but if you should happen to restore an earlier game, you don't have to keep going back to things you looked at once to ensure that you've got the points from it.

This game requires careful exploration and observation. I find that due to the way the game navigation works, it can sometimes be tricky to travel to certain locations in the game. Also, if you are having a difficult time with a puzzle, it may be that you missed the hint needed. I failed to notice some desk drawers and therefore couldn't solve one puzzle. In particular, there are times when you can look up or down, but they may require some careful examination before you can work out exactly where you can start looking up or down.

Take notes as you go through, or be prepared to use the hint system a lot. For a change, using the hint system doesn't cost you points - I supposed with only 9 points, they couldn't - but I like not having to worry about losing points if you do use the help.

**Be warned.** One of the places you travel to, the Asylum, has some very gruesome bits. I don't think I've had quite such a creepy feeling since playing with the brains in Frankenstein's lab. This place is much worse than that though.

Don't be afraid to play with things. There are a few places where it might be dangerous (surely you know to save any adventure game when you've made progress?) but most of what is lying around is either useful or adds character to the game. There are very few items that you can carry around with you, and so you won't end up with one of those never ending inventories. There are many books, pictures, and notes to look at. You can never be sure which will give the clues either, so look at them all.

### **Gripes About the Game**

**It has the bad habit of totally, utterly and completely locking my computer at the point where you can jump from the Temple of the Ancients to one of the other game locations. Since you'll need to travel to four other game locations from this point, this is a major frustration. Once I realized it was consistent on my computer, I always saved before trying the jump.**

**I find the 360 degree navigation system a bit disconcerting. One moment, you're looking around to see if there is anything interesting on the screen, then you get the cursor too close to one side and you start rotating. The navigation isn't as flexible as that of Under a Killing Moon or The Pandora Directive though. You can look in all directions but you will move to a predefined spot every time. Sometimes, when you've moved in for a close view of an item, it can be difficult to get the cursor to take you back. This can get very frustrating. I think I was moving my mouse around a bit too quickly some of the time, but looking for how to get the back arrow quickly gets old.**

### **Conclusion**

**I highly recommend this game for serious adventure players. If you're just starting adventure games, be warned, this one is lovely but pretty tough. It takes a lot of patience and careful observation of your surroundings to win.**

**This game is not suitable for the squeamish, there is some gore in the Asylum. There are also a couple of paintings in the background of nude women, which might cause concern for some parents. Generally, I wouldn't recommend the game for those under 15.**

**Overall, clues to all the puzzles are available. They aren't always easy to find, and it is *very, very* easy to miss an item when scrolling around the screen. The game doesn't have pixel perfect puzzles, and arcade**

sequences aren't present (three of the things most likely to annoy adventure gamers.)

If you loved the original Zork, you may or may not like this game. There is no question that it is quite good for its type, but it is fairly unlike any of the text-based Zork games.

### Some Final Thoughts on the Game

I have and started ages ago Return to Zork. The game didn't really catch my attention, and I've never come close to finishing it. This game is so vast an improvement on RTZ that it's hard to believe the difference.

The end of the game is quite satisfying, unlike some games around, Myst being one of the best examples. But it is slightly puzzling, until you find there is an item not far away that cause the end credits to roll. They give proper credits for the actors, and even the artwork that you've seen in the game!

Losing the game at the end isn't so satisfying. A minor insult and then reload or quit. Ah well, they probably didn't worry too much about this bit because it isn't at all difficult at the last to work out what to do. Getting to that stage is another song and story, but your last important act is very self-apparent.

Last updated 1 April 1997.

*Lynn Alford is not only a professional WebMaster, and she is that, but also gamer of reputation. Too modest to tell me, her game reviews are well know by the gaming community. In any case, Lynn is our newest Editor with gaming responsibilities. Parents who have concerns for their children being exposed to both adult and violent material will find those passages, if any, highlighted in the text with Lynn's recommendations. Lynn's homepage can be viewed along with her other games reviews at the John Cooke University's Centre for Interactive Multimedia <http://www.jcu.edu.au/~imla/> Her game review pages are based at <http://www.jcu.edu.au/~imla/games2.html>*



## **The Ultimate Faxing Dream!**

**Copyright 1997 by Stefan Assmann**

**Instead of giving you a complete review of this great package, I could simply make this the most terse evaluation ever with these few words: This is an absolute must-have!**

**However, I wouldn't dare dream of depriving you of the pleasure of reading about my experiences. In fact, I even have some criticism! So, lets get on with it:**

### **System Requirements**

**As with all programs these days, moderately hefty hardware is required to run this gem as it should be run. There are different requirements for Windows 95 and NT 3.51 / 4.0. On the box, it reads as follows:**

#### **Windows 95**

**80486 SX/25**

**8 MB RAM**

**25 MB free space**

**VGA**

**CD-ROM or 3.5" disk drive**

**Fax modem: class 1, 2 or CAS-compatible**

**ISDN: 32-bit CAS 2.0 compliant**

**Fax/voice for TalkWorks**

**80486 DX2/66 with 16MB for 2-modem support**

## **Windows NT**

**The same as for Windows 95, except for a 80486 DX2/66 with 16 MB RAM for normal operation and a 80486/100 for two modems**

**The above requirements represent the bare minimum for the minimal install. The box recommends at least an 80486 DX2/66 with 32MB RAM for both platforms, which is indeed a more realistic minimum.**

### **Contents of the box**

- **WinFax Pro 8.0, the main program**
- **TalkWorks, an integrated communications solution for all your needs (answering machine etc.). This requires a voice modem.**
- **Complete manual in Acrobat PDF format (CD-ROM version)**
- **Multimedia tutorials (CD-ROM version)**
- **Bonus package (CD-ROM version), consisting of ACT 3.0 (max. 25 contacts), pcAnywhere 7.5 (30-day trial), Internet Explorer 3.0, Norton Antivirus NT (detect only) and Norton Antivirus 95 (detect only)**

### **Installation**

**The installation is as simple as inserting the CD-ROM in the drive. A menu will come up, allowing you to install the package, view the manuals, take the multimedia tour, or install one of the bonus programs.**

**The installation program for WinFax itself is more or less the same as in previous versions. You select the type of installation, I most always choose custom, and the program checks the capabilities of your modem and then the necessary files are copied to your hard drive. I don't have a voice-modem yet (yes, I'm going to upgrade soon) and**

tried to install TalkWorks anyway. The program will then pop up a dialog box informing you that the modem doesn't support the voice features and offer you a choice of not installing TalkWorks after all (the default choice) or installing it anyway. I chose to install it anyway so that it's ready for my voice modem in a couple of months.

I have two complaints about the set-up program (and they are the only ones for the entire program):

- When the set-up program has nearly finished and is creating program groups, the groups aren't minimized and you can't follow the rest of the set-up process.
- Symantec, known for its virus technology, doesn't bother to check for viruses prior to installation (I haven't seen it. Maybe it's being done under the surface).

After installation, you are invited to restart your computer. Next time your desktop comes up, your tray has one more icon, namely that of the WinFax Controller (the second from the right in the screen below, next to the traffic light). I don't like that icon, do you? The previous looked far better to my eyes.



Anyway, the purpose of the controller is to conserve system resources while still being able to receive faxes automatically, start WinFax, and so on. It's a nice feature where you can do nearly everything from the controller without needing the main program except for configuration purposes, - perhaps .

## **New and improved**

Many of you probably downloaded the 12MB trial version a while ago, when the program was still in the beta stage. Apart from ironing out the bugs, Symantec has changed the functionality slightly and made it faster. Compared to previous versions (7.0, 7.5), Symantec has added an enhanced version of TalkWorks, Internet faxing, effortless network faxing (you can use WinFax as a client for Intel Satisfaxtion or its own WinFax for Networks), Office 97 support and LiveUpdate. This version can also use two telephone lines, so that you can receive and send faxes at the same time. Symantec also added a cover page wizard to make it easier to create your own cover pages. To top it all off, it's now possible to directly scan a document into WinFax and fax it to just about everywhere.

Other nice enhancements include fax compression, so that your faxes are transferred faster, and smart error correction for error-free sending / receiving.

With Office 97 support, you can fax directly from Word 97 or Excel 97. The supplied macros add an icon in your main toolbar for this. Just click and fax away! You can also keep your logs / faxes in Exchange or Outlook 97.

LiveUpdate goes out on the Internet (or a local Symantec BBS) to find, download and install updates. It is fully automatic once you have given the command. This feature is extremely handy and now a standard feature in just about all of Symantec's applications.

## **New to WinFax?**

**For those of you who do not know this program and this is the first time being exposed to it, WinFax Pro, formerly from Delrina, has won numerous awards for being the best fax program ever, and with good reason. With each version, Delrina, now part of Symantec, added numerous enhancements for making the program faster, easier and more fun to use. With this package, you can send / receive faxes and voice messages, turning your telephone into an answering machine with that required voice modem. After receiving faxes, you can opt to let them recognize with OCR (the engine is courtesy of Xerox Textbridge; you can upgrade to the full version of this package for a small fee), let the program warn you that you have received a fax, print it, etc. The program also intelligently interfaces with the leading word processor and spreadsheet packages to ensure one button faxing from Word (6, 7 and 97), WordPerfect (7.0) and Excel (6, 7 and 97). You can also use mailing systems like Exchange / Outlook 97, Lotus cc:Mail and others. The program, including its interface, is very customisable to suit everyone's needs and is very intuitive to operate. As to cover pages, you can choose from an elaborate collection provided with the program (most of them quite humorous), or create your own with the new design wizard.**

**You can send your fax at a scheduled time, during off-peak hours at night, for example, and in conjunction with a word processors, fax a mailing list by merely selecting a few options. You can insert your own logo in your fax header, as well as sign them electronically. Faxing attachments is a piece of cake. In addition, when you're sending faxes to the same person(s) regularly, you can set up all the required parameters in the provided phone book. When you're sending the same fax to more than one person at a time in regular intervals, you can create a group in your phone book. Just select this group as your recipient and you're done. WinFax will take care of the rest. If you**

**have an Internet connection, a new feature lets you fax long-distance faxes via a local call over the Internet, saving you time and money.**

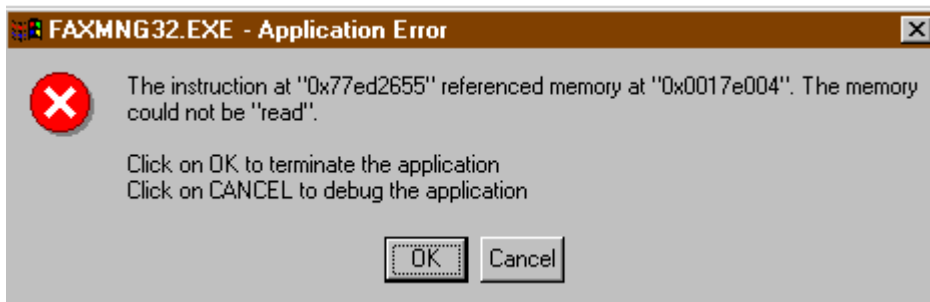
**As for receiving, you can set it to automatic or manual. When set to automatic, you can set the number of rings before WinFax should answer. After reception, you can opt to view the fax, OCR it, print it, or all of these in order.**

**You want to keep a trace on all the faxes you send / receive? No problem at all! WinFax keeps detailed logs of everything.**

### **Errors & Bugs**

**I found only one (so far), but it's a serious one. Try to do the following:**

- **from the controller, select "send a fax"**
- **select a recipient and a cover page (doesn't matter which one)**
- **type something**
- **select it**
- **Now try to change the font of the selected part...**



**Let me know if you get the error depicted in the above screen shot!**

**The ludicrous thing is, you can safely change your font before typing something, but not on selected text. Changing font sizes and other attributes work, however.**

**The bug described above is not new, I also found it in version 7 and 7.5. I can't imagine someone not having alerted Symantec to this problem.**

**Other than that and the very minor set-up annoyances described above, it's one heck of a program. 9.5 out of 10 from me! So, do not walk or even run, but fly to your nearest retailer and by this program!**

**In the May issue of WindoWatch, I will be writing a second article on WinFax Pro 8.0, where I go into more details on the specific operation of the various components of this program.**

*Stefan Assman is a very prolific writer with a broad range of interests and skills. A committed beta tester, he is regularly bringing his vast experience to the [WindoWatch](#) community. He would be happy to answer your questions about this product and other shared interests. He can be reached at [Stefan.Assmann@club.innet.be](mailto:Stefan.Assmann@club.innet.be)*

## **PowerDesk Utilities 2.02**

**By Linda L. Rosenbaum**

One of the hardest adjustments for many folks when first moving from Windows 3.x or NT 3.5x is Explorer, the interface in Windows 95 and now NT 4.0 (or called in NT 4.0, the Windows NT Explorer) I am definitely one of those folks! I have tried a few alternative file managers and have been using the file manager that comes in NT Tools (i.e. Norton File Manager) for almost a year now. I have never taken to Explorer and use it only if absolutely nothing else is available. A fellow *WindoWatch* writer, Stefan Assmann, recently waxed eloquent about an Explorer replacement/alternative called ExplorerPlus. It is part of a set of utilities called PowerDesk Utilities and its from Mijenix Corporation (<http://www.mijenix.com>). I had first been told about this utility quite some time ago, but always in the context of use for Windows 95. Stefan was the first of my friends to use this program in NT 4.0. After a bit more prodding and a mention in the April 8, 1997 issue of PC Magazine, I finally downloaded the evaluation version of PowerDesk Utilities 2.02 (<http://www.mijenix.com/download.htm>).

What a totally pleasant and enjoyable surprise this program turned out to be! I fell in love almost instantly and went back online a few short hours later to purchase the program. We have since gotten one for my husband's system (NT 4.0) and one for my father's new Windows 95 system.



**According to a note on the PowerDesk web page, MicroHelp, Inc. previously marketed PowerDesk, but Mijenix Corporation, the original PowerDesk developer, recently reacquired all rights to the product. PowerDesk Utilities 2.02 is currently only available directly from Mijenix Corporation. It can be purchased online or by calling 1-800-MIJENIX (1-800-645-3649) or (608) 277-1981. The price was \$34.95 until April 1, 1997, and is now \$39.95, plus shipping and handling. If ordered online, you are able to download it immediately. In addition, a disk with the program and a manual is mailed to you.**

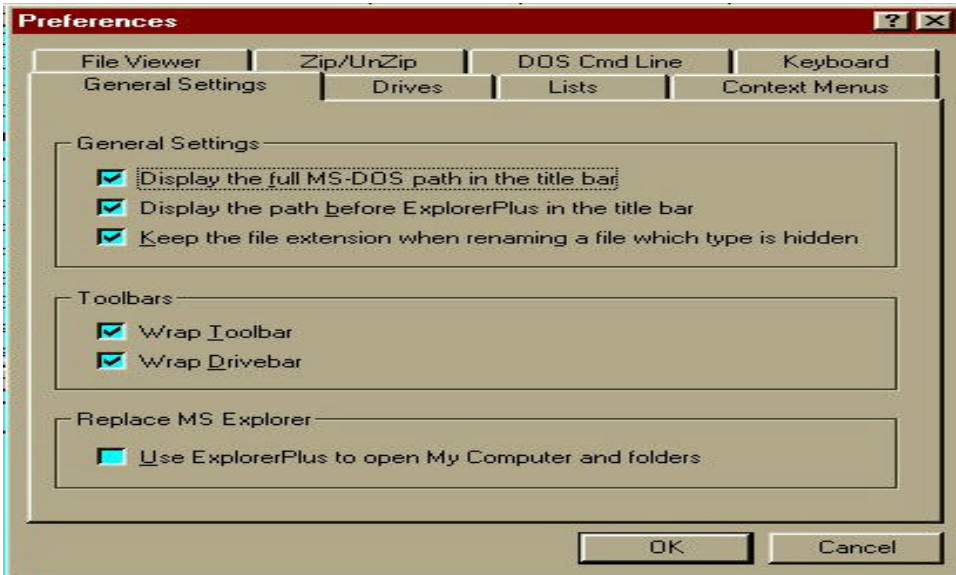
**The installation of PowerDesk Utilities 2.02 is simple and quick. It asks where you want to install the program. A shortcut to ExplorerPlus is installed in both the Start menu and on the desktop. One of the more interesting aspects of the installation was that when I installed the evaluation version, I was able to begin using it without a restart. However the non-evaluation version of the program prompts you to restart the computer after its installation is completed. I have no idea what is done that requires a restart, but I obliged it.**

**ExplorerPlus is the heart of this set of utilities and all other programs can be launched from within ExplorerPlus. ExplorerPlus does indeed look and feel like Explorer. But it is also very obvious that there is more to it when the program is run for the very first time. For starters, ExplorerPlus has two toolbars and a launchbar in its default configuration:**



**The first toolbar contains various one-click functions for Explorer-Plus. The second toolbar contains drive icons for single click access to any drive, as well as the icon to go up one folder/directory. The launchbar contains icons for one click start up of programs from within ExplorerPlus. It contains icons for the other PowerDesk Utility programs: PowerDesk Size Manager, PowerDesk File Finder, and PowerDesk Toolbar. It also has an icon to start up the registry and one for notepad. You can add virtually any program you want to the launchbar. You can also modify the icons displayed in the other toolbars within ExplorerPlus.**

**Next I explored Options, Preferences for ExplorerPlus. I was more than a little bit overwhelmed by all the various choices:**



I actually left quite a few at their defaults at first since I was not sure what I wanted to do. I also took a look around at the other menu choices and discovered several view choices including Single Pane (looks most like Windows NT Explorer), Dual Pane Horizontal, and Dual Pane Vertical. Eureka! I finally was able to configure a file management tool that showed me more than one drive/directory and listing of files at the same time without having to actually run a second instance of itself. I was always struggling in Explorer to figure out how to copy or move files from one place to another. I often use My Computer instead by opening up each respective folder and then do a copy and paste to make another copy of the same file or cut and paste to move the file. In these terms, Norton File Manager is better than My Computer, but requires another instance of itself to be run, and

then mousing around to get to where you need to be. I also went into Configure launchbar and set up the ability to launch the NT registry to use the 32bit registry editor. I have not added any more launchbar icons because I also use the PowerDesk Toolbar.

ExplorerPlus comes with the ability to create and extract PkZip compatible archives. However, in order to be able to access this I discovered that I had to reconfigure ExplorerPlus to associate archive files, which I had not done during the original installation of the program. After doing so, I got a new option when I right click on a file called PowerDesk. This now had an option to add to a zip, zip a file and unzip a file. When using any of these, the dialogue boxes are very straightforward and easy to follow. Although I am a long time registered user of WinZip, I had been using Norton File Manager to do much of my basic zipping and unzipping and find it equally as easy to do in ExplorerPlus. It is a convenience I no longer will live without.

After getting ExplorerPlus configured to my satisfaction and making sure it did all the necessary file management type of things, I went on to exploring the other utilities that came in PowerDesk Utilities 2.02. I first checked out the PowerDesk Size Manager. It shows you where and how the space on each of your drives is being used. You can get information on the size of each folder, group of folders, and each drive/partition. It is shown in a very nice graphical display with the ability to modify what is displayed.

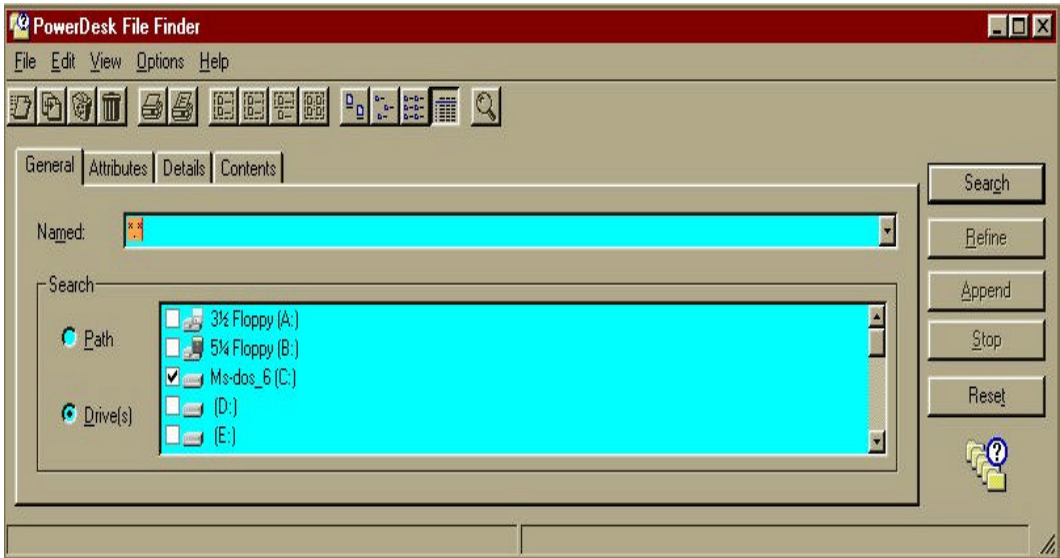
When it is first launched via an icon in launchbar, for example, it does take it a bit of time to gather all of the information it will be displaying. It seems to automatically scan each local drive/partition

File Edit Disk Tree View Options Tools Help							
Normal Find Results							
Folders	Total	Files in Folder	Nbr of Files	Accessed	Modified	Created	Capacity
Linda's Computer							
3½ Floppy (A:)	---	---	---	---	---	---	---
5¼ Floppy (B:)	---	---	---	---	---	---	---
Ms-dos_6 (C:)	351,412,224	1,916,928	35	---	---	---	526,106,624
Winnit40	298,352,640	19,988,480	336	4/1/97	4/1/97	3/8/96	
Program Files	29,229,056	8,192	0	9/27/95	9/27/95	9/27/95	
Dos	6,283,264	6,283,264	125	3/30/97	10/1/95	1/1/80	
Scsi	4,997,120	4,407,296	66	4/1/97	6/23/96	1/1/80	
Dv32	4,456,448	4,456,448	75	4/1/97	4/27/96	10/14/95	
Winzip32	1,589,248	1,589,248	20	4/1/97	10/12/96	9/26/95	
Df32	1,515,520	1,515,520	29	4/1/97	6/5/96	8/1/95	
Pwricht40	1,490,944	1,490,944	18	4/1/97	3/31/97	4/5/96	
Sb16	434,176	434,176	14	3/30/97	9/27/95	1/1/80	
Temp	294,912	131,072	18	4/1/97	4/1/97	1/1/80	
nbench32	229,376	229,376	9	3/30/97	1/1/96	8/18/95	
Mouse	212,992	212,992	4	3/30/97	9/26/95	1/1/80	
sysmon32	204,800	204,800	7	4/1/97	1/1/96	1/1/96	
stuff	90,112	90,112	7	3/30/97	2/18/97	9/12/96	
downloads	65,536	65,536	1	4/1/97	3/18/97	3/18/97	
Recycled	16,384	16,384	1	4/1/97	3/29/97	10/1/95	
users	16,384	8,192	0	9/26/95	9/26/95	9/26/95	
installs	8,192	8,192	0	6/25/96	6/25/96	6/25/96	
win32app	8,192	8,192	0	9/26/95	9/26/95	9/26/95	
(D:)	224,813,056	8,192	0	---	---	---	526,106,624
(E:)	201,285,632	8,192	0	---	---	---	526,106,624
(F:)	249,323,520	8,192	0	---	---	---	526,106,624
(G:)	1,026,334,720	145,756,160	1	---	---	---	2,187,890,688
drive2 (H:)	536,102,912	2,048	0	---	---	---	2,138,540,032
C Drive on 'Franksp100' (I:)	---	---	---	---	---	---	---

when it first starts but can also give the same sorts of information for a network drive.

When displaying the detailed folders within a drive, it lists/displays the largest one at the top. It can also display the number of files within each folder, the last time it was accessed and the capacity of a drive in total. It is truly amazing how much space some of my various programs take up!

**I next took a look at the PowerDesk File Finder. While it is similar to the file finding ability built into NT 4.0, it provides extra functionality and ease.**



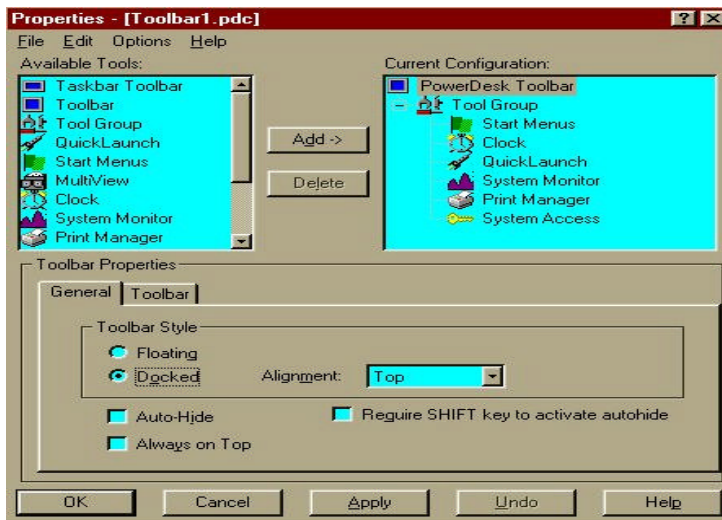
**The *extras* that PowerDesk File Finder has include the following:**

- an integrated viewer pane to quickly view the contents of found files
- a customizable toolbar
- ability to print the results of a search

- memory of recently-searched patterns
- ability to easily see how to search multiple drives at once
- memory of recently-searched paths

I have used the PowerDesk File Finder a few times and it works just as advertised.

Last, but not least, I took a look at the PowerDesk Toolbar. It can provide one click access to your applications, files and folders. It can be customized, and you can create multiple tool bars, and use them at the same time. When I first clicked on the icon in ExplorerPlus to start the Toolbar, I was presented with the PowerDesk Toolbar set up wizard. After I answered a few questions and my first toolbar was created. After creating itself, I could get into the properties for the toolbar and its various components, and modify it to my preferences:



**Some of the features of the toolbar I really like are the following:**

- **Display of start menus so I can skip a few clicks to launch my programs.**
- **System monitor – I have it configured to show CPU usage. While the NT Task Manager can do the same, I have a problem with using Task Manager and RAS. I get CRC errors when online if Task Manager is running. I do not have this problem with the CPU usage monitoring done in the PowerDesk Toolbar.**
- **Clock – I finally have a clock for NT 4.0 that displays both the seconds and the date.**
- **Quicklaunch – provides one-click access to applications, files and folders. It first includes whatever was on your desktop when first created by the wizard but this can be modified.**
- **Print Manager – displays each installed printer as an icon and gives quick access to printer resources.**
- **System Access – provides one-click access to commonly used functions including shut down, restart, log on as a different user, and print screen.**

**I now launch the PowerDesk Toolbar on startup. I also was able to remove the vast majority of the shortcuts that used to be on my desktop. This makes for a much neater and easier to access desktop.**



**In addition to everything I have described that comes with the program, Mijenix has posted on their Web a few additional utility programs that can be used with PowerDesk Utilities 2.01 (and 2.02).**

**These include the following:**

- **AVI Video Player - Requires MS VC Runtime DLL (AVIPLAYR2.ZIP, 27 kb)**
- **Piano - (PIANO2.ZIP, 33 kb)**
- **SaveNow Screen Saver Starter: Requires MS VC Runtime DLL (SAVENOW2.ZIP, 29)**
- **Poker Game: Requires MS VC Runtime DLL (POKER2.ZIP 48kb)**
- **Magnifying Glass: - (MAGNIFY2.ZIP, 42 kb)**
- **Calendar - (CALENDAR2.ZIP, 45 kb)**
- **KickStart - Requires MS VC Runtime DLL - Allows you to start a program and open a selected file (KIKSTART2.ZIP, 33 kb)**
- **PushPin - Requires MS VC Runtime DLL - Allows to disable/enable PowerDesk Toolbar moving and resizing (PUSHPIN2.ZIP, 28 kb)**
- **Microsoft VC Runtime DLL - Visual C Runtime DLL needed for some PowerDesk Tools (AVI Video Player, SaveNow, Poker, Kick-Start and PushPin). If you do not have the file MSVCRT40.DLL**

**in your 'SYSTEM' directory, you will need to download this file for the mentioned PowerDesk Tool to work properly.  
(VCRNTIME.ZIP, 147 kb)**

**In conclusion, I strongly suggest you pick of the phone or go to the Mijenix Web page and buy PowerDesk Utilities 2.02. It has been quite some time since I have seen so much value packaged in such a seemingly small utility product.**

*Linda Rosenbaum lives and works in a suburb of New York City. She is an assistant controller at the World Headquarters for a large global manufacturing company. She has two young children and a husband whose full time job is to take care of the kids. When not working, Linda can be found on a variety of online services and the Internet reading and writing about her experiences with NT, networking, and multimedia. She maintains a home network of four systems using a combination of NT and Windows 95. Linda is the NT Editor for [WindoWatch](#) and can be reached via Email at either [lindar@cyburban.com](mailto:lindar@cyburban.com) or [71154.2622@compuserve.com](mailto:71154.2622@compuserve.com).*

Retrieved from the Ilink Browser Conference: With thanks to John Campbell and Christopher Greaves

[cross-posted message]

This is best viewed with Internet Explorer Version 396 or higher.

WASHINGTON, D.C. (AP) - Senate Majority Leader Ray Noorda (P-Utah) today demanded that the Department of Justice order Microsoft and Netscape to cease development of new Internet browsers, saying the ever-escalating battle for Internet dominance had sapped the American economy of its vitality.

In an impassioned speech before the Perotista-controlled Senate, Noorda, once a key figure in the information technology industry, claimed American workers and shoppers are so consumed with downloading new browser versions, Netscape plug-ins and Microsoft ActiveX Controls that they no longer have time to produce anything of value or to consume products. "We have been transformed from a nation of thinkers and doers to a nation of downloaders worried about whether we are keeping up with the technological Joneses," Noorda said.

Noorda's comments came only a day after Netscape released Version 407 of its Navigator browser, which includes the ability to listen to AM radio from any laptop. Version 407 had just completed its 37-hour beta trial, while versions 408, 409, 410 and 411 are in develop-

**ment. Microsoft, which has been criticized of late for slipping behind Netscape in the browser race, vowed to deliver Version 405 of its Internet Explorer "before the next major religious holiday," though company spokesman Jim Manzi declined to specify which religion the company was referring to.**

**Mark Gibbs, author of IDG Books' bestselling "Deleting Old Browsers for Dummies", said the continuing instability in the Internet market has virtually halted development of new applications. "How can you build to a platform that only lasts 51 days?" asked Gibbs. "The only apps being developed now are crossword puzzles and 3-D, rotatable crossword applets."**

**According to research firm International Data Corp., the average PC user now has 62 browsers installed. That has significantly limited the usefulness of the desktop machine because each "browser operating system/object bucket/API repository" consumes a minimum of 1G bytes of storage and requires 256M bytes of RAM to operate (somewhat less if the touchscreen option is disabled).**

**Intel Corp. recommends the use of at least a 757-MHz Decadium processor to support current browsers. "There is no capacity left to run any other application," said IDC Chief Executive Officer Bob Frankenberg. "Our PCs, in essence, are simply containers for browsers."**

**In the late 1990's, it was hoped that the browser model of accessing information would actually allow for the development of simpler, less expensive desktop devices that would rely on applications and data housed on Internet servers. But the dream of the so-called Internet**

**device died with the release of Internet Explorer Version 231, which cracked the 800M byte storage requirement and supported some 257,462 ActiveX, DirectDraw, VB, DirectX, VisualX++ and InActiveX Controls.**

**"It's a shame, really," said former Oracle CEO Lawrence Ellison, who was a vocal proponent of the Internet device idea at the time. "We could have been freed from the Web of Microsoft control, no pun intended. But Bill outmanuevered us again," added "Big Larry" Ellison, who now runs the Used Cars 'R' Us operation on the Auto Mile in Redwood City, Calif.**

**In response to Noorda's call for federal intervention, the Justice Department issued an electronic press release available on its Web site [www.bookem.gov](http://www.bookem.gov).**

**"We firmly believe the free market is the best arbiter of whether development should continue on Web browsers and servers."**

**From: [christopher.greaves@pro-mail.com](mailto:christopher.greaves@pro-mail.com)**

# THE LAST WORD

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## Dial-In

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*"Everybody talks about the weather but nobody ever does anything about it."*

Sounds like telecommuting, doesn't it? For as long as I can remember I've been hearing about this mythical corporate worker; nattily clad in bathrobe and bunny slippers, clacking away for hour after productive hour at their keyboard. Faxes and print jobs flying every which way, phone calls – heck even video conferencing - from the office provides a glorious din to this '90s business samurai.

"Oh the costs we'll save!" "Oh the reduction in traffic!" "Oh the increased productivity and time to spend with family!" "Free at last! Free at last! Thanks, Bill Gates and U.S.R(obotics) I'm free at last!"

But! Before we get too many stanzas into the song, we get slapped in the face with a little reality. Our firm can't afford ISDN connections to every home and the connection speeds we enjoy with our 33.6Kbps modems are usually well below their stated maximums. This has frustrated our directors - all of whom have seen the Jetsons and know perfectly well that you can connect from halfway across the country

and have your notebook run with all of the speed and reliability of your LAN.

I do realize that there are some companies out there that *are* living the dream; but the reality for most companies is that there are too many users, too few modems, the connections aren't as reliable as they'd like and the users complain that it's too slow. So what do we do about this?

The fundamental issue, as I explain to our people, is one of data and bandwidth (a pipe). You've got X amount of data and you need to get it to the other end of the pipe. There are two basic ways to improve the performance: Send less data or use a bigger pipe.

So, we've moved as many applications as possible to the hard drives of the notebook computers; that much less data to suck down the pipe. We've tried to implement compression and taken every step we can think of to make the software more efficient; but we're dealing with software that was written during the Reagan Administration and wasn't really designed with remote computing in mind.

So we turn to the pipe...we already have 33.6 modems, but our connections are so poor that a 26,400 connection is guaranteed to bring a smile. What can we do? Our newest modems are upgradable to the U.S. Robotics X2 technology, but frankly our phone lines are so suspect that we have no confidence of being able to actually make use of X2.

Where that leaves us is looking ahead to new software that will hopefully be more *dial-in friendly* while hoping beyond hope that some

**solution to our bandwidth bottleneck will appear. Cable modems? Wireless? X2? Who will save us?**

**ADSL anyone? The biggest problem with ADSL is that it appears as if nobody in our little city has ever heard of it. A resounding "Huh?" from the guy at the phone company is not confidence inspiring when we call to make sure that the phone system can handle it. The awkward pause our ISP gives us indicates that they not only don't HAVE any ADSL modems, but if they did have one they've probably mistaken it for a pencil sharpener and returned it as defective.**

**As it stands now, the speed problem is not so onerous that our users don't use the system. Whenever they're out of town they call in for e-mail and to check their calendars. Sometimes in the evenings or on weekends, when they don't feel like driving all the way downtown, they'll call in to do a little work. But we still haven't seen the days when people make the decision to sleep in; dial-up the office at 8:30 and telecommute for a couple of hours before their lunch meeting simply to beat the traffic and spend a little more time with their family.**

**I guess we can still hope that tomorrow will be a sunnier day for it.**

*Ben Schoor has been doing his LASTWORD column for [WindoWatch](#) from almost the inception of the magazine. Ben is the Director of Information Services at Damon Key Bocken Leong Kupchak in Honolulu, Hawaii. His office is crowded and messy and his modem is slow, but you can e-mail him at [bms@hawaiilawyer.com](mailto:bms@hawaiilawyer.com) anyhow.*



## **Herb Chong Goes Sky Gazing?**



**Beneath Strange Skies Copyright 1997 by Herb Chong**

**Reflections of the sky, - light and clouds, on the water.**