

# EVOLUTION OF HOME SOFTWARE

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The history of software and how it has evolved and changed over the years for home (and business) users.

# Welcome

- Who am I?
  - Jonathan A Burt BSc Cert Mgmt HND FIAP IEng MBCS CITP
    - Batchelor of Science Degree (Open)
    - Professional Certificate in Management
    - Higher National Diploma in Computing
    - Fellow of the Institute of Analysts and Programmers
    - Incorporated Engineer with the Engineering Council
    - Member of the British Computer Society
    - Chartered IT Professional
    - PRINCE2 Practitioner
    - Certified Novell Administrator (v5.x)
  - 25+ years experience of working in IT.
  - Long time member of the Isle of Wight PC User Group!



# Software Evolution

- Over the years software and operating systems have evolved quite drastically.
- Gone are the days of the Command Line Interface (CLI), and it's all Windows and Mouse!
- I have tried to show how our use of computers have changed with regard to the evolution of software.
- Apologies if I don't cover your "favourite"! 😊

# 8bit, 16bit, 32bit, 64bit

- Modern PCs use the x86 architecture and as such have limitations on the physical memory range within which they can operate, for example  $2^x$  where 'x' is:
  - 8-bit = 256K
  - 16-bit = 65,536K (i.e. 64 KB)
  - 32-bit = 4,294,967,296K (i.e. 4 GB)
  - 64-bit = 18,446,744,073,709,551,616 (i.e. 16 Exabyte or 18,000,000 Terabytes!)

# Operating Systems - DOS

```
Enter today's date (m-d-y): 00-04-81
The IBM Personal Computer DOS
Version 1.00 (C)Copyright IBM Corp 1981

Addit = com
IBMBIO COM 1920 02-23-81
IBMDOS COM 6400 08-13-81
COPYCMD COM 3231 08-04-81
FORMAT COM 2560 08-04-81
CHKDSK COM 1395 08-04-81
SYS COM 896 08-04-81
DISKCOPY COM 1216 08-04-81
DISKCOPY COM 1124 08-04-81
COMP COM 1620 08-04-81
DATE COM 252 08-04-81
TIME COM 250 08-04-81
VERB COM 860 08-04-81
EQLIN COM 2392 08-04-81
REORG COM 6649 08-04-81
BASICA COM 16880 08-04-81
BASICA COM 16256 08-04-81

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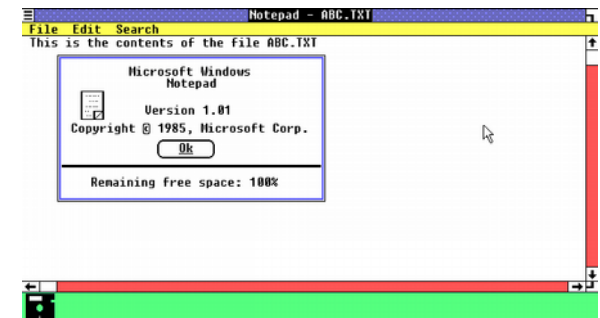
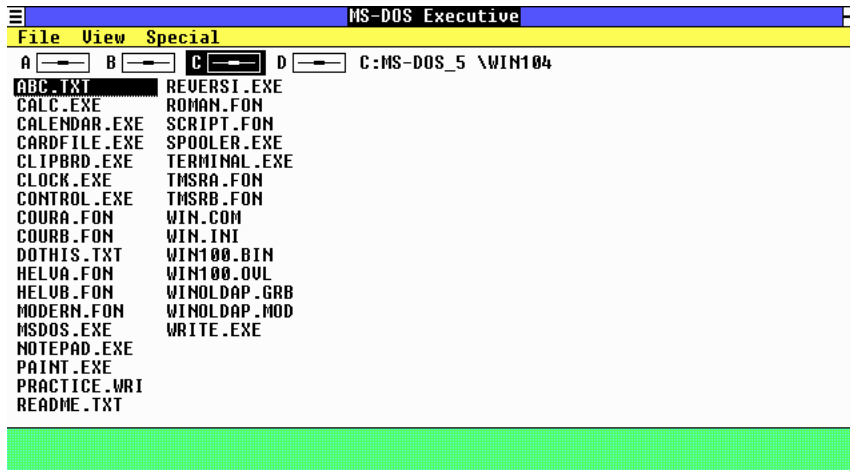
- The dominant Disk Operating System when IBM created the IBM PC, was CP/M (Control Program/Monitor and later Control Program for Microcomputers) owned by Digital Research for the 8-bit Intel 8080 range of processors.
- The IBM PC was planned for the 8-bit Intel 8088 (which later expanded to the 16-bit Intel 8086 range of processors), and IBM needed an Operating System. They entered into an agreement with Microsoft.
- Variations of MS-DOS lasted until 1995 when Microsoft produced Windows 95. However there were clones by other companies, i.e. DR-DOS, PC-DOS, FreeDOS.

| Date       | Version | Details  |
|------------|---------|--|
| 1981 (Aug) | 1.0     | formerly QDOS/86-DOS, can use a maximum of 128 kbyte RAM, FAT established  |
| 1981 (Jun) | 1.10    |  |
| 1982 (Aug) | 1.25    | support for single-density 5.25" floppy disks  |
| 1983 (Mar) | 2.0     | support for IBM 10 mbyte harddisk, directory's and DD 5.25" floppy disk drives with up to 360 kbyte  |
| 1983 (Dec) | 2.11    | extended character sets  |
| 1984 (Aug) | 3.0     | support for high density floppy disk drives with 1.2 mbyte and harddisk devices with 32 mbyte capacity   |
| 1984       | 3.1     | network support  |
| 1985       | 3.2     |  |
| 1985       | 3.21    |  |
| 1987 (Apr) | 3.3     | extended for IBM's PS/2 computer, supports now bigger 3.5" harddisk drives and floppy disk drives, multiple partitions, character sets for different languages   |
| 1988 (Jul) | 4.0     | XMS support, partitions with up to 2 gbyte, graphical shell, bug fixes   |
| 1988 (Nov) | 4.01    | supports multiple partitions bigger than 32 mbyte, bug fixes   |
| 1991 (Jun) | 5.0     |  |
| 1992       | 5.0a    | bug fixes for Undelete and Chkdsk  |
| 1993 (Aug) | 6.0     | competition to Novell's DR-DOS 6, DoubleSpace, Anti-Virus program, Defrag, Move command, improved MSBACKUP and several boot configurations, memory optimizer MEMMAKER, DOS Shell is delivered separately on floppy disks |
| 1993 (Nov) | 6.2     | DoubleSpace becomes incompatible to the previous version, Scandisk, improved of DISKCOPY and SmartDrive  |
| 1994 (Mar) | 6.21    | because of law conflict with Stac Electronics DoubleSpace is removed from MS DOS   |
| 1994 (May) | 6.22    | Microsoft licences double disk of VertiSoft Systems and designates it in DriveSpace, last official standalone version  |
| 1995 (Aug) | 7.0     | MS-DOS component for Windows 95, LFS support through VFAT, more DOS programs are delivered on the Setup CD-ROM in the "oldmsdos" directory   |
| 1996 (Aug) | 7.10    | MS-DOS component for Windows 95 B and higher, supports the first time FAT 32 harddisks   |
| 2000       | 8.0     | MS-DOS component for Windows ME, last MS-DOS version   |
| 2001 (Dec) | N/A     | MS-DOS Support discontinued  |

# Operating Systems – Windows 1.x

- Windows was first announced by Microsoft in 1984, to run on its MS-DOS operating system.
- Windows 1.0 was released on November 20, 1985. It wasn't a stand-alone operating system, but a bolt-on for DOS.
- The first version of Microsoft Windows included
  - a simple graphics painting program called Windows Paint;
  - a simple word processor called Windows Write;
  - an appointment calendar; a card-filer; a notepad; a clock; a control panel; a computer terminal; Clipboard; and RAM driver.
  - It also included the MS-DOS Executive and a game called Reversi.

| Date       | Version | Details               |
|------------|---------|-----------------------|
| 1985 (Nov) | 1.0     |                       |
| 1985       | 1.01    | CGA/HGC/EGA support   |
| 1986 (May) | 1.02    | International release |
| 1986 (Aug) | 1.03    | More European drivers |
| 1987 (Apr) | 1.04    | IBM PS/2 support      |
| 2001 (Dec) | N/A     | Support discontinued  |

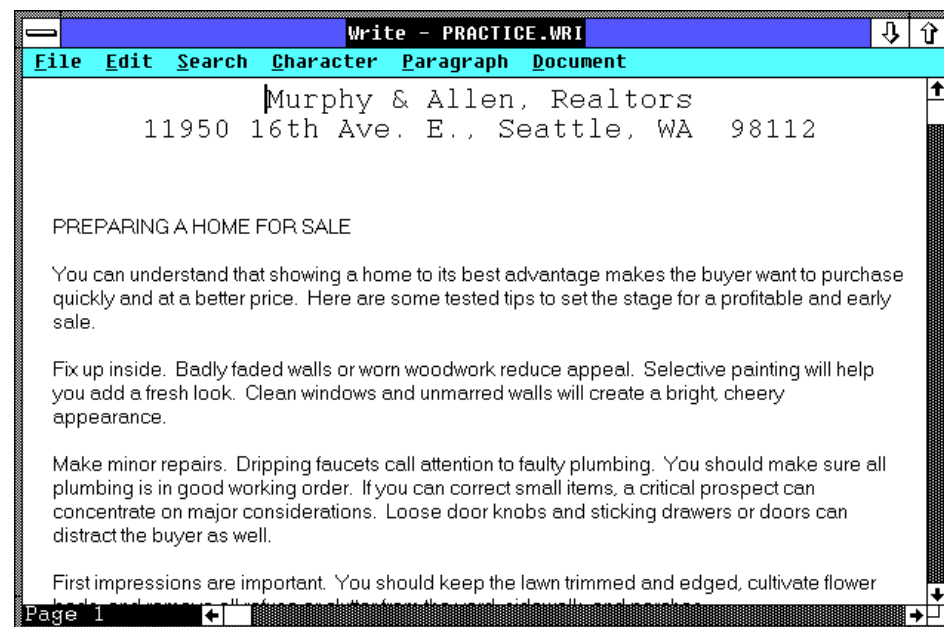
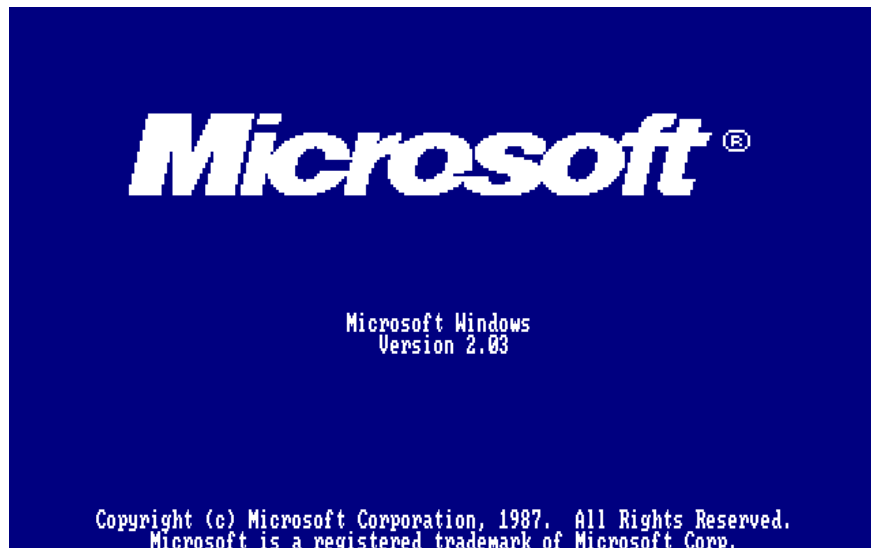
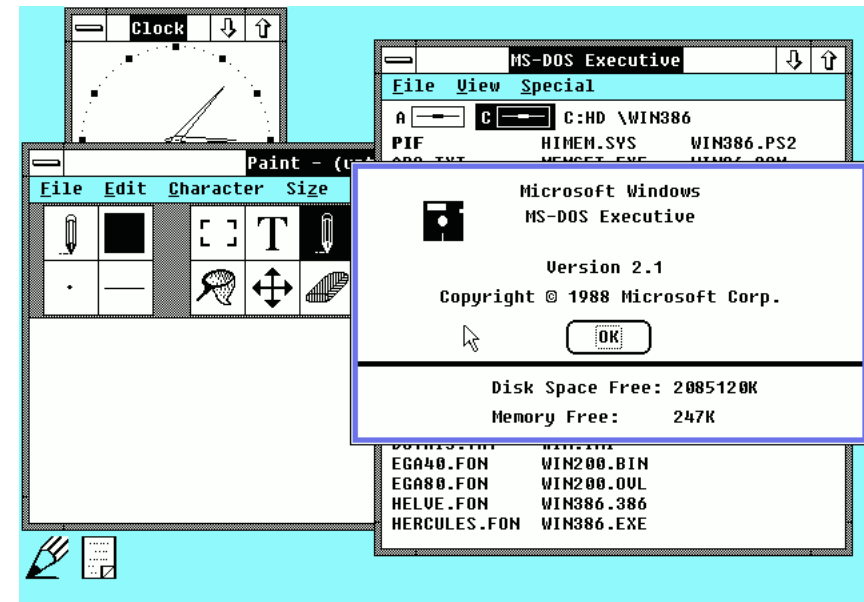




# Operating Systems – Windows 2.x

- Windows 2.0 was released on December 9, 1987. It was still a bolt-on for DOS though.
- This second version of Microsoft Windows included all the features of Windows 1.x plus the following new features:
  - a calculator
  - a print spooler
  - more drivers
  - support for the new Excel and Word for Windows!
- Windows 2.1, had two releases, called:
  - Windows/286
  - Windows/386

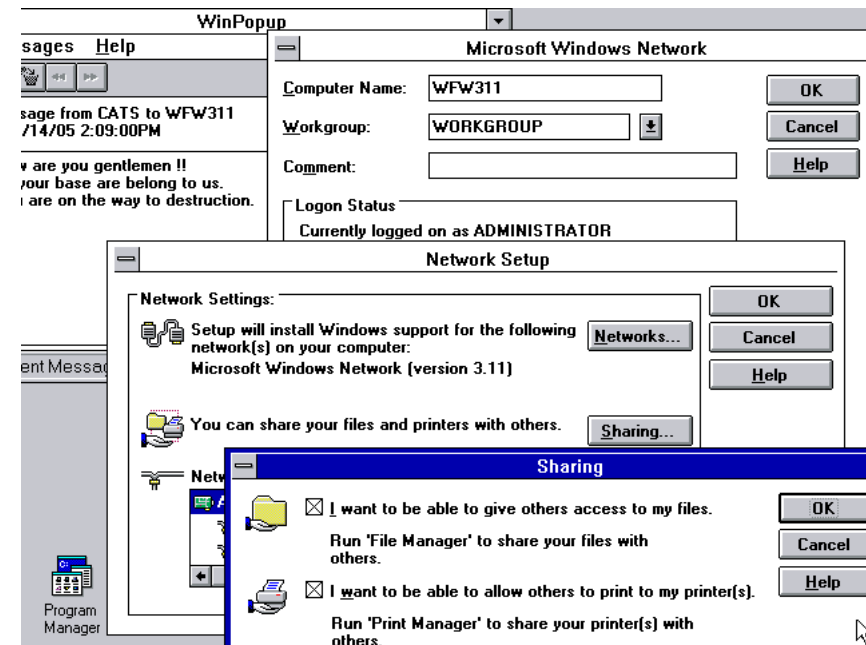
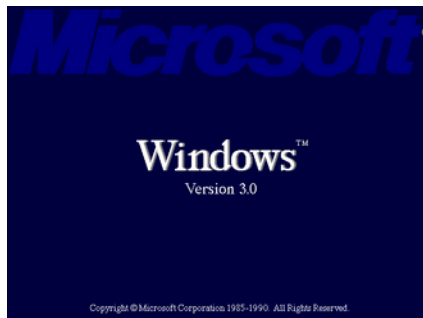
| Date       | Version | Details   |
|------------|---------|---|
| 1987 (Nov) | 2.0     | Supports up-to 1MB RAM, VGA (16 colours)                        |
| 1988 (May) | 2.1     | Now required a hard-disk.                                       |
|            | .. /286 | Support up-to 80286 processor.                                  |
|            | .. /386 | Support up-to 80386 processor.                                  |
| 1989 (Mar) | 2.11    | Memory management improvements, AppleTalk and improved printing |
| 2001 (Dec) | N/A     | Support discontinued  |



# Operating Systems – Windows 3.x

- Windows 3.0 was released on May 22, 1990. It still required a DOS installation to run.
- This third version of Microsoft Windows included all the features of Windows 1.x/2.x plus the following new features:
  - access to more memory and better memory management
  - even more drivers
  - sound card and CD-ROM support
  - better networking support

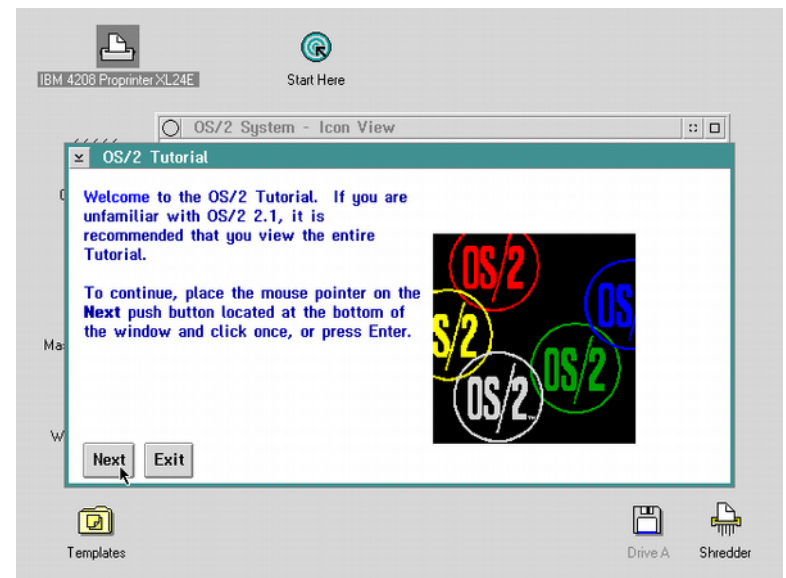
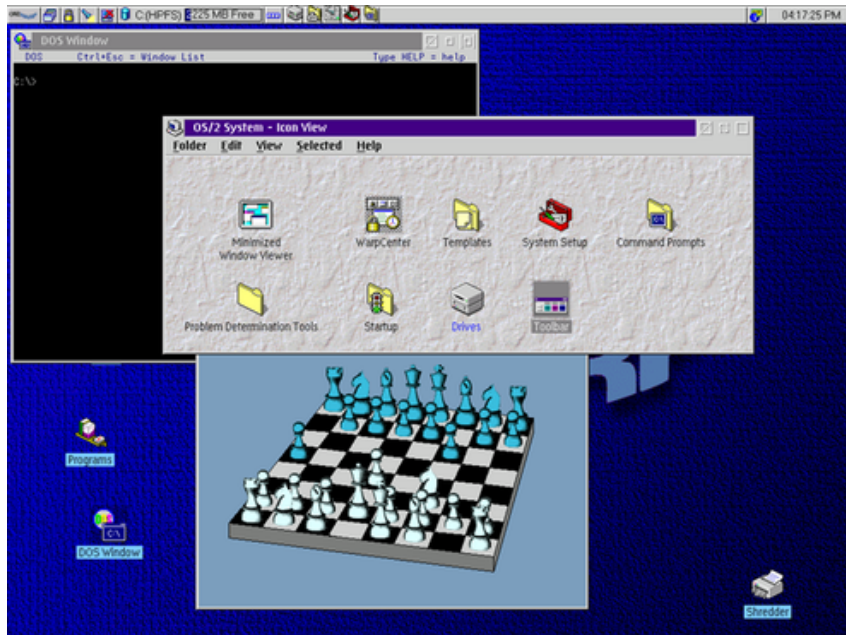
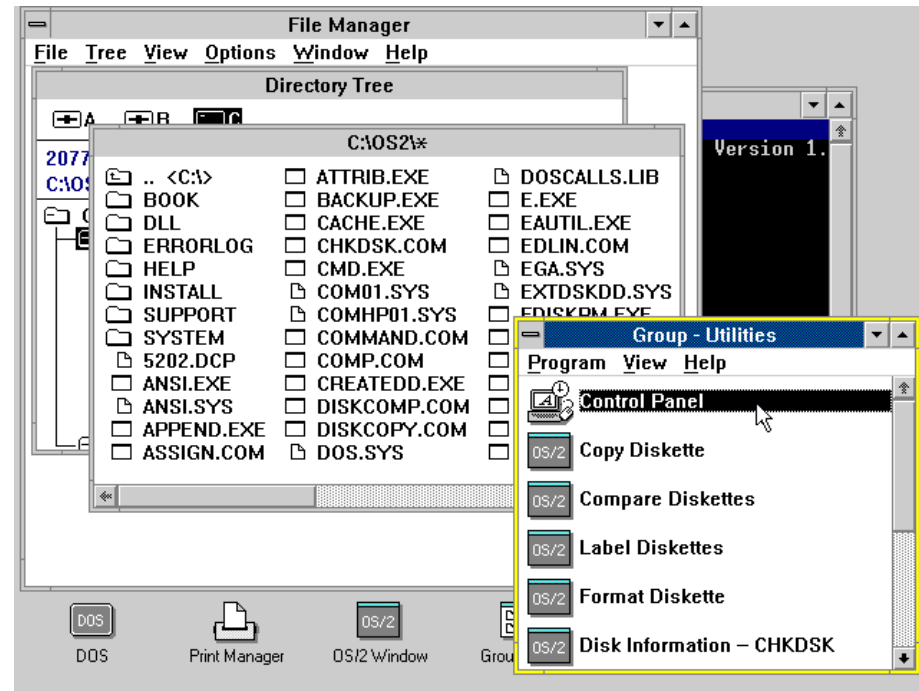
| Date       | Version      | Details   |
|------------|--------------|---|
| 1990 (May) | 3.0          | Supports up-to 16MB RAM   |
| 1990 (Dec) | 3.00a        |   |
| 1991 (Oct) | 3.0 with MME | Support sound cards, CD-ROM   |
| 1992 (Apr) | 3.1          | TrueType fonts introduced, Minesweeper, 4GB RAM (256MB), Windows Registry, support for Internet Explorer v2 to v5 |
| 1993 (Nov) | 3.11         | Bug fix release of 3.1  |
| 1993 (Aug) | WfW 3.11     | allowed users to share their resources and to request those of others without a centralized authentication server |
| 1993 (Nov) | 3.2          | Chinese market specific changes   |
| 1994 (Aug) | WfW 3.11     | TCP/IP add-on released  |
| 2001 (Dec) | N/A          | Support discontinued  |



# Operating Systems – OS/2

- OS/2 was a joint project between IBM and Microsoft, viewed as the successor to DOS, using the Intel x86 platform.
- OS/2 v1.0 was released in December 1987, this was only a text-mode version, and v1.1 added in a proper GUI.
- In 1990, during the overwhelming success of Windows 3.x and the limitations of OS/2 Microsoft and IBM had a disagreement about the future of OS/2.
- IBM released Warp (1994) and Warp 4 (1995), with various add-ons up-to 2001.
- Post-2001 development was taken over by Serenity Systems as an eCommerce platform (now called eComStation).

| Date       | Version   | Details                                 |
|------------|-----------|---|
| 1987 (Dec) | 1.0       |   |
| 1988 (Nov) | 1.1       |   |
| 1989 (Oct) | 1.2       | TCP/IP & Ethernet support               |
| 1990 (Dec) | 1.3       | Last version with Microsoft involvement |
| 1992 (Apr) | 2.0       | Partial 32-bit support                  |
| 1994 (Oct) | Warp (v3) | Full 32-bit support                     |
| 1996 (Feb) | Warp 4    | Java, speech recognition                |



# Operating Systems – Windows 9x+

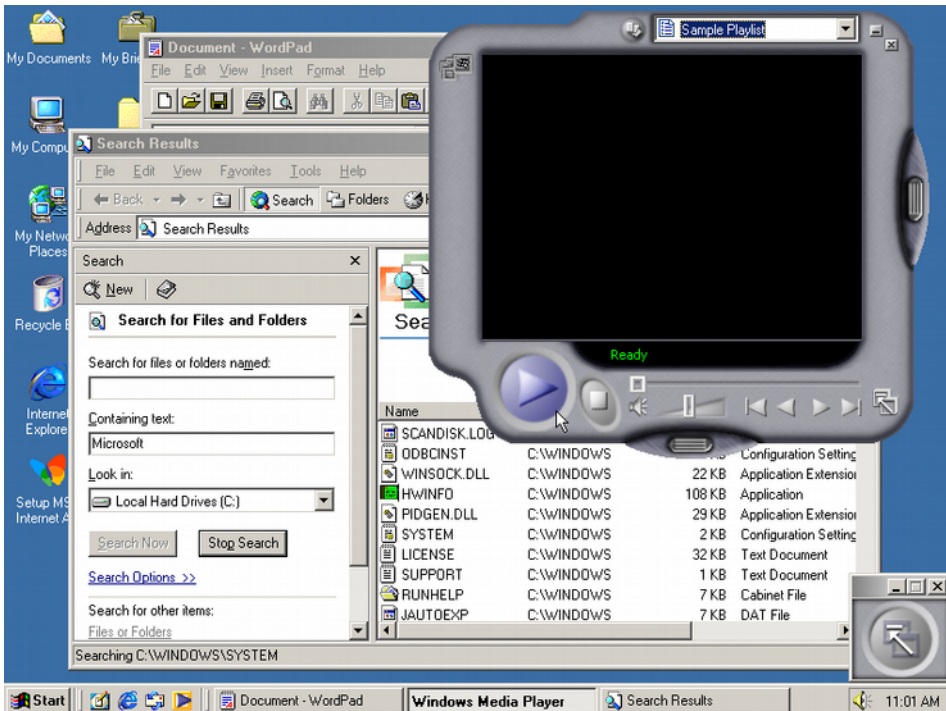
- Windows 95 was released on the 24 August 1995, and was the game changer!
- The introduction of the now famous “Start” button.
- Hybrid 16-bit/32-bit operating system, and the evolution of Windows v1.x, 2.x, 3.x. Supported new 32-bit drivers and older 16-bit DOS drivers.
- Technically still required MS-DOS to run, but “hid” it from the end-users.
- Redesigned interface.
- 32-bit file system (thus need Intel 80386+ processor), supported long file names!

# Operating Systems – Windows 9x+

- Windows 95 evolved to Windows 98, 98SE and then the dismal failure that was Windows ME.
- Windows 98 had various additional features for dealing with the Internet;
  - Internet Explorer, Outlook Express, Windows Address Book, FrontPage Express, Microsoft Chat, Personal Web Server
- Windows 98 had a major increase to its driver database and supported even more hardware. More reliable USB support, TWAIN, DVD, and multiple monitor support. As well as improved performance and stability.
- Windows ME was often criticized for being buggy, slow and unstable, and Microsoft didn't take long to replace it.



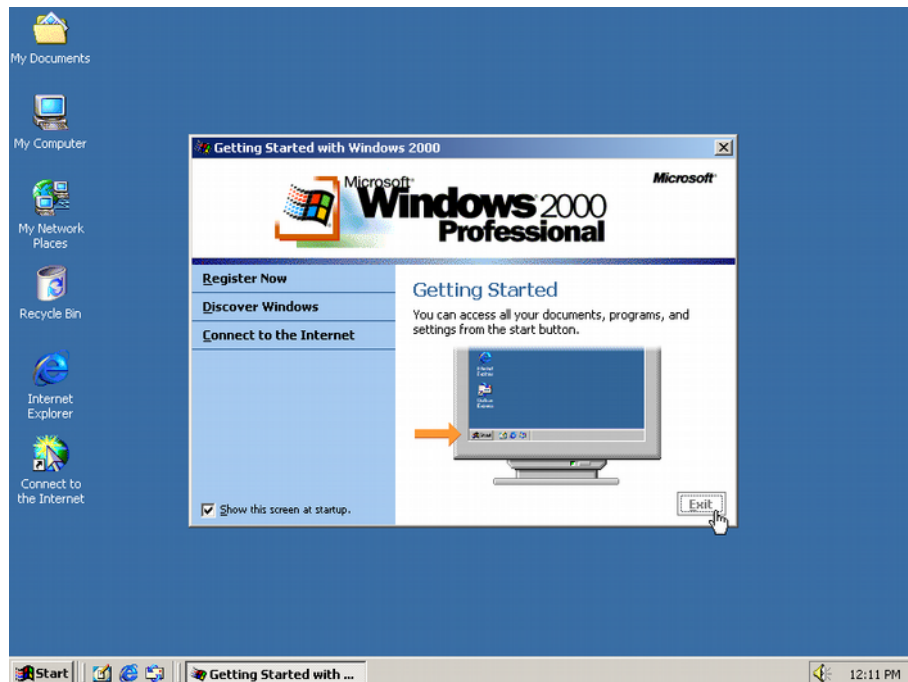
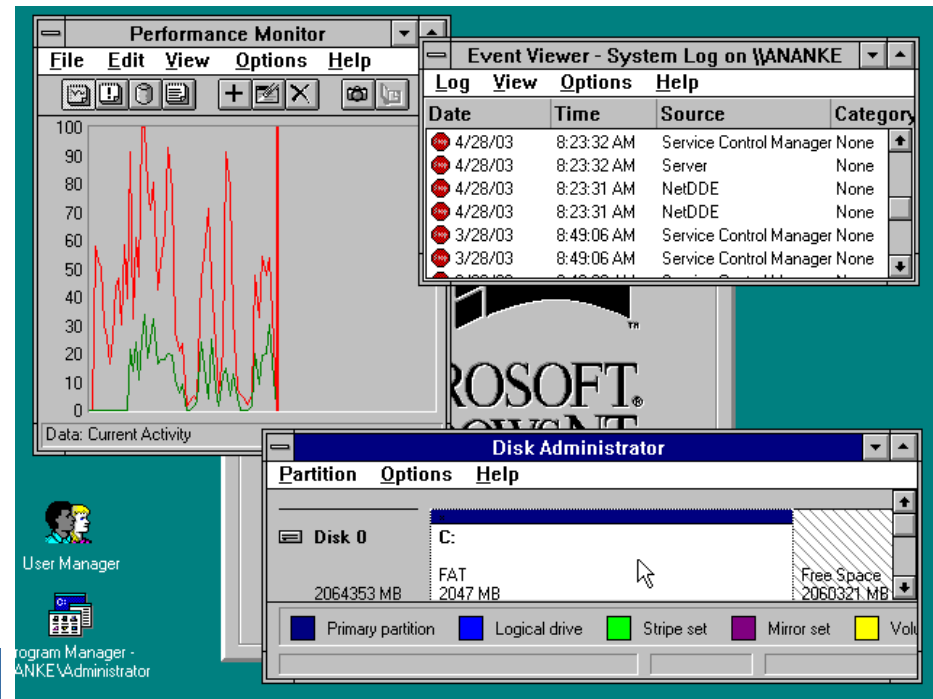
| Date       | Version | Details   |
|------------|---------|---|
| 1995 (Aug) | 95      | First release, mass market success, FAT32/>2GB drives (SP2) |
| 1998 (Jun) | 98      | Internet to the masses                                      |
| 1999 (May) | 98 SE   | The most stable version of the Windows 9x line              |
| 2000 (Sep) | ME      | The less said the better!                                   |



# Operating Systems – Windows NT+

- Windows NT was the Microsoft successor to OS/2, and was a true Windows operating system which didn't need DOS installed to run.
- True 32-bit operating system, precursor to the modern Windows interface.
- Developed separately from the Windows 9x versions for a more stable and secure operating system.
- Windows 2000 introduced many of the new features of Windows 98 and 98SE into the NT development line.

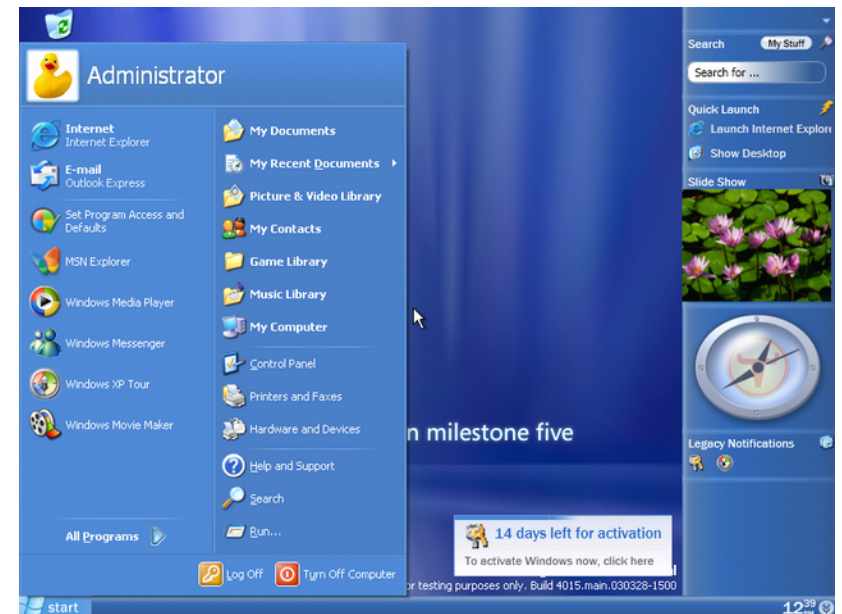
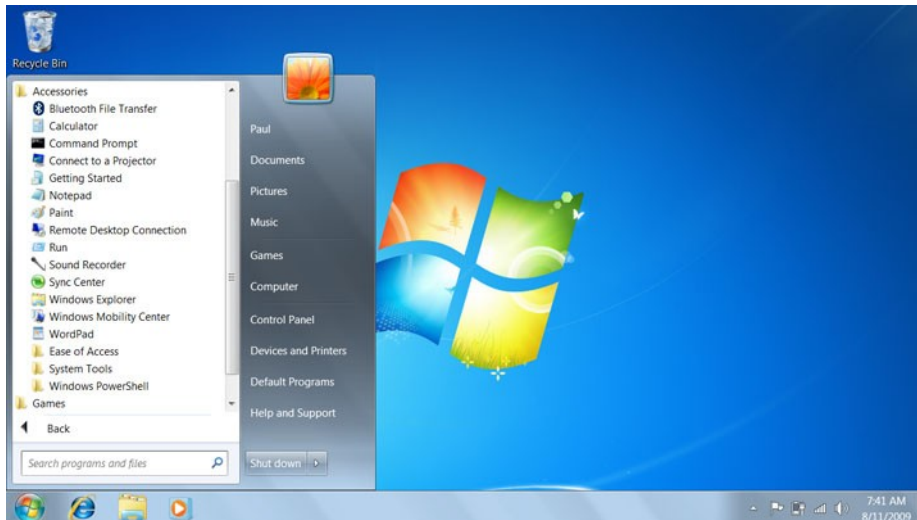
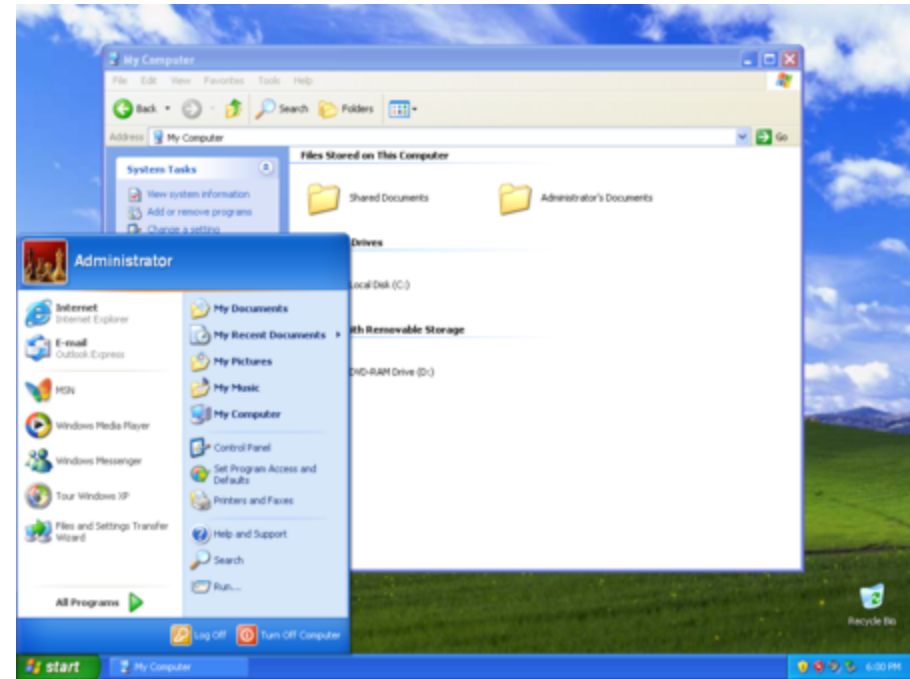
| Date       | Version | Details  |
|------------|---------|--|
| 1993 (Jul) | NT 3.1  | 32-bit, NTFS   |
| 1994 (Sep) | NT 3.5  | True TCP/IP support, long filenames  |
| 1995 (May) | NT 3.51 | PCMCIA support, NTFS file compression, 3D graphics, "tooltips"                 |
| 1996 (Aug) | NT 4.0  | Start Button! DirectX, Task Scheduler  |
| 2000 (Feb) | 2000    | Encryption, Plug-n-Play, Improved GUI with shadows, fading, etc. FAT32 support |



# Operating Systems – Windows XP+

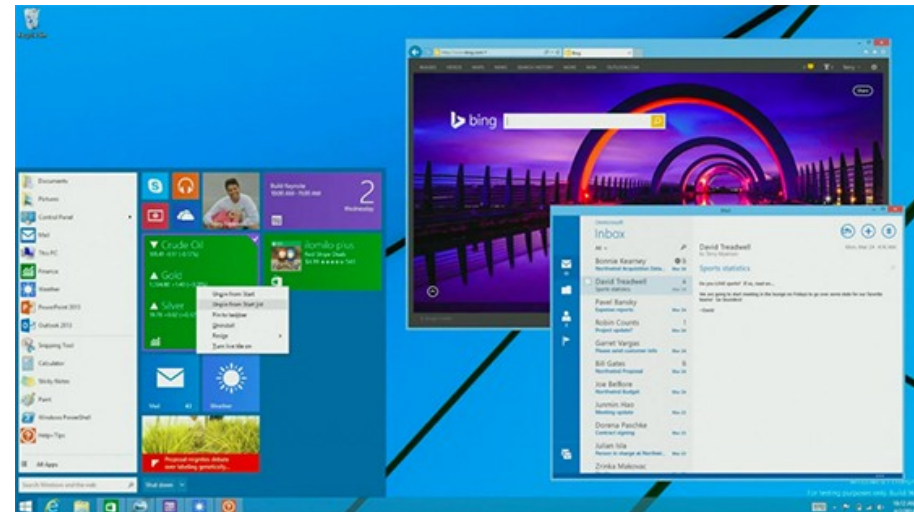
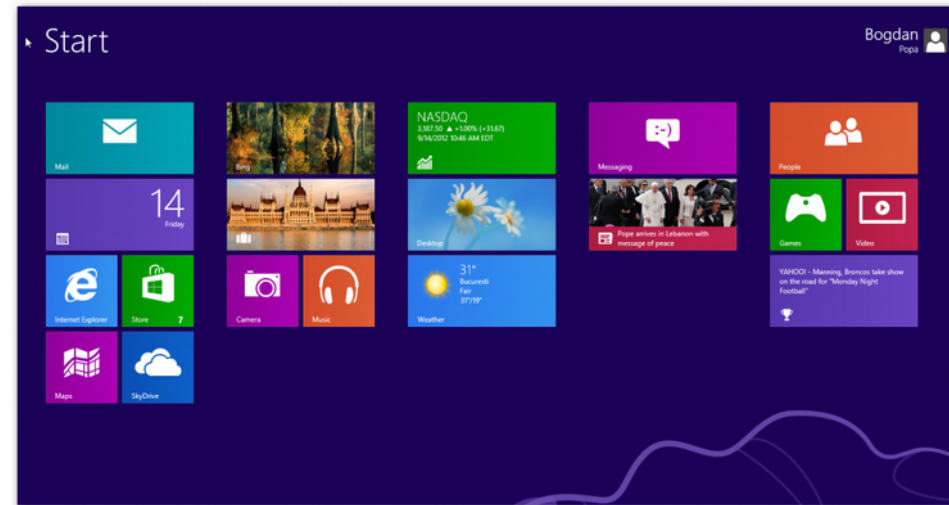
- Windows XP is a continuation of the Windows NT line of operating systems, but also replaced the older 95/98/ME versions.
- From Windows XP upwards, Windows was available in both 32-bit and 64-bit versions.
- Windows XP introduced the new style GUI, with a major overhaul, as well as improved networking capability.
- Later versions supported more hardware, and moved inline with processor speeds.
- Some versions “failed”, i.e. Vista/Windows 8.

| Date       | Version | Details   |
|------------|---------|---|
| 2001 (Oct) | XP      | First 64-bit release, System Restore, USB 2, .ZIP support and CD burning  |
| 2006 (Nov) | Vista   | Updated GUI, Windows Defender (Anti Spyware), DVD maker                   |
| 2009 (Oct) | 7       | PowerShell, Taskbar overview, Virtual PC, Security Essentials (Antivirus) |
| 2012 (Oct) | 8       | USB 3, Windows Store, Touch Screen, 4KB sector hard disks                 |
| 2013 (Oct) | 8.1     | Device encryption, 3D printing, Miracast, Skype                           |
| 2015 (Jul) | 10      | Edge, Linux BASH, Cortana, Xbox integration, GUI updates                  |





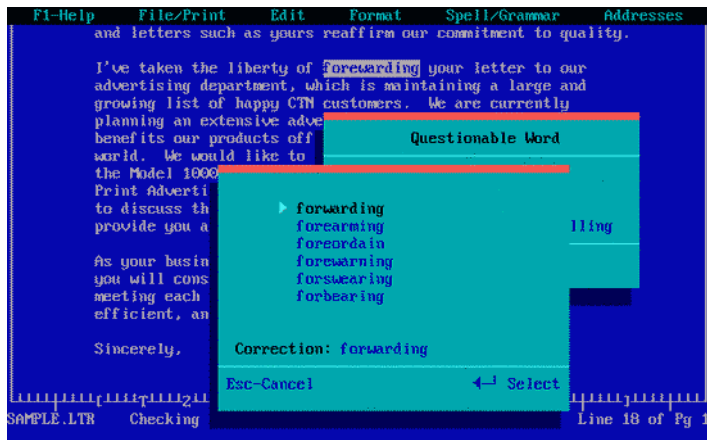
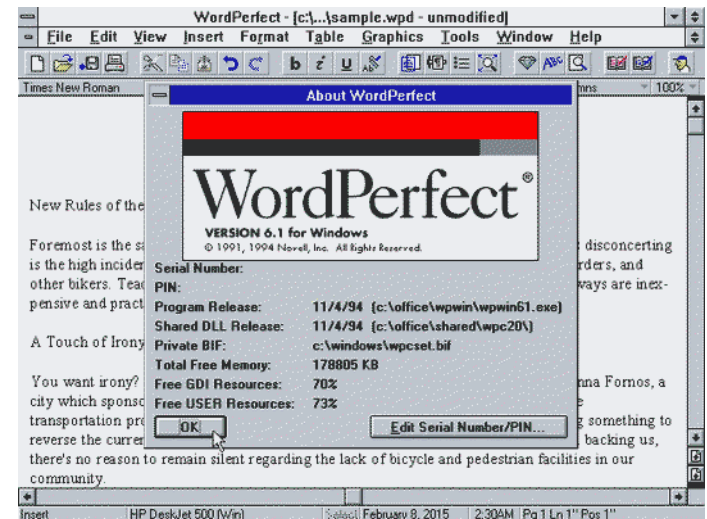
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|------------|---------|---|
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| 2015 (Jul) | 10      | Edge, Linux BASH, Cortana, Xbox integration, GUI updates                  |



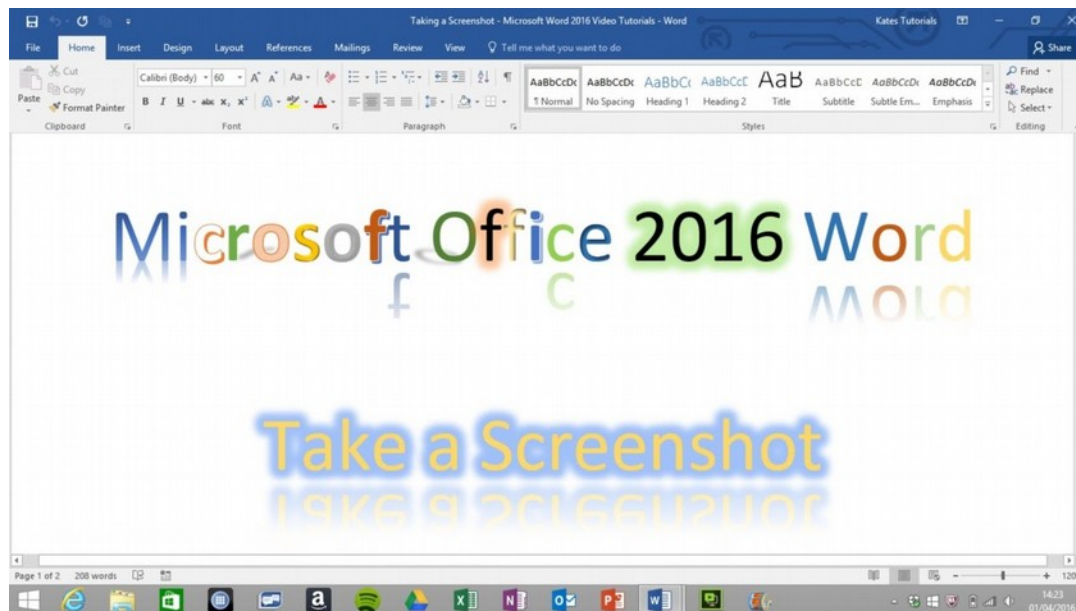
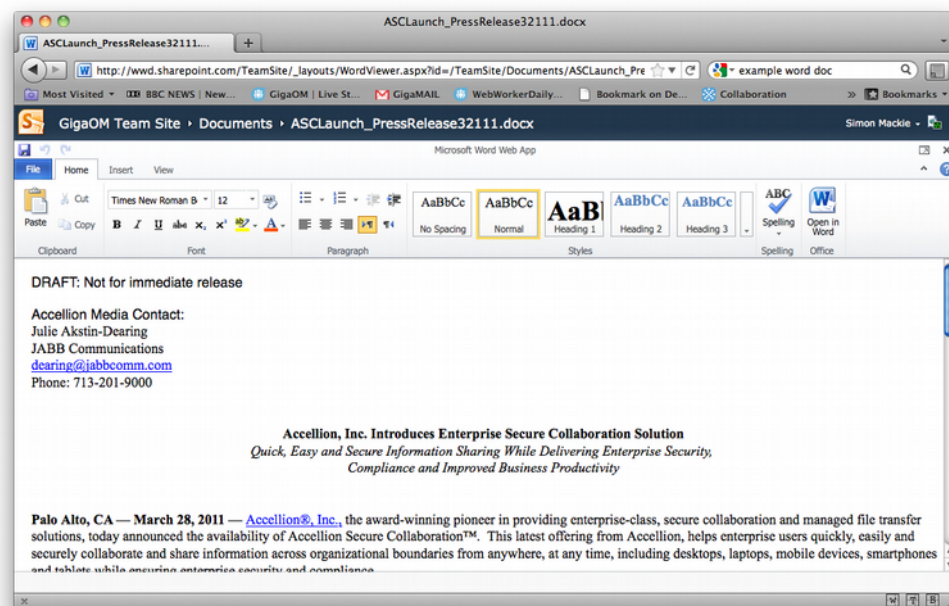
# Word Processing

- Word Processing was most probably the main use for a PC (apart from modern Internet usage), and there were numerous applications available during the 1980's/90's.
- At one stage PC Magazine reviewed 57 different programs in the January 1986 issue!
- For many years there wasn't an obvious market leader, but the more popular ones were Wordstar, WordPerfect and pfs:Write and Microsoft Word.
- Spell Checkers and Mail Merge were revolutionary features which made typing a much easier business.
- However, Grammar Checkers initially were only available as add-ons, but in 1992 Microsoft built-it into Word.

| Application    | Born | Died | Details  |
|----------------|------|------|--|
| Wordstar       | 1978 | 1999 | Started well, lost ground to Word Perfect, later versions lost the original “spark” and Windows version (for Windows v3) took too long to release. |
| WordPerfect    | 1979 | -    | Started well, took the crown from Wordstar, but later lost it to Microsoft Word. Still available now, and actively developed.                      |
| pfs:Write      | 1983 | 1994 |  |
| Microsoft Word | 1983 | -    |  |







# Spreadsheet

- If Word Processing was revolutionary for people, then Spreadsheets were Out-of-this-World! The big five spreadsheets were:
  - VisiCalc (for "visible calculator") was the first spreadsheet computer program for personal computers (Apple II, then ported to DOS).
  - SuperCalc was released in 1980 for CP/M, Apple II and DOS and was more popular with many users than Lotus 1-2-3 because it was distributed without copy protection (as well as being priced lower).
  - Lotus 1-2-3 was released in 1983 (DOS, OS/2, Windows), and soon became the market leader, only losing out to Excel in the mid-1990's. Early versions has unpopular draconian copy-protection.
  - Quattro released in 1989, was the first spreadsheet to support multiple tabs (work sheets).
  - Excel was released in 1983

| Application     | Born | Died       | Details   |
|-----------------|------|------------|---|
| VisiCalc        | 1979 | 1985       | Purchased and killed by Lotus in 1985.                            |
| SuperCalc       | 1980 | Mid 1990's | Purchased by CA in mid 1980's, discontinued after losing to Excel |
| Lotus 1-2-3     | 1983 | 2014       | Purchased by IBM in 1995, discontinued in 2014.                   |
| Quattro         | 1989 | 2014       | From 1996 part of Corel Office Suite.                             |
| Microsoft Excel | 1983 | -          |   |

C11 (L) TOTAL 25

| ITEM      | NO. | UNIT  | COST     |
|-----------|-----|-------|----------|
| MUCK RAKE | 43  | 12.95 | 556.85   |
| BUZZ CUT  | 15  | 6.70  | 101.05   |
| TOE TONER | 250 | 49.95 | 12487.50 |
| EYE SNUFF | 2   | 4.95  | 9.90     |
| SUBTOTAL  |     |       | 13155.50 |
| 9.75% TAX |     |       | 1282.66  |
| TOTAL     |     |       | 14438.16 |

A:A1: 'EMP' MENU

Worksheet Range Copy Move File Print Graph Data System Quit

Global Insert Delete Column Erase Titles Window Status Page Hide

| A   | B                | C      | D         | E     | F      | G      |
|-----|------------------|--------|-----------|-------|--------|--------|
| EMP | EMP_NAME         | DEPTNO | JOB       | YEARS | SALARY | BONUS  |
| 1   | 1777 Azibad      | 4000   | Sales     | 2     | 40000  | 10000  |
| 2   | 81964 Brown      | 6000   | Sales     | 3     | 45000  | 10000  |
| 3   | 40370 Burns      | 6000   | Mgr       | 4     | 75000  | 25000  |
| 4   | 50706 Caesar     | 7000   | Mgr       | 3     | 65000  | 25000  |
| 5   | 49692 Curly      | 3000   | Mgr       | 5     | 65000  | 20000  |
| 6   | 34791 Dabbarrett | 7000   | Sales     | 2     | 45000  | 10000  |
| 7   | 84084 Daniels    | 1000   | President | 8     | 150000 | 100000 |
| 8   | 59037 Dempsey    | 3000   | Sales     | 3     | 40000  | 10000  |
| 9   | 51515 Donovan    | 3000   | Sales     | 2     | 30000  | 5000   |
| 10  | 48338 Fields     | 4000   | Mgr       | 5     | 70000  | 25000  |
| 11  | 91574 Fiklore    | 1000   | Admin     | 8     | 35000  | ---    |
| 12  | 64596 Fine       | 5000   | Mgr       | 3     | 75000  | 25000  |
| 13  | 13729 Green      | 1000   | Mgr       | 5     | 90000  | 25000  |
| 14  | 55957 Hermann    | 4000   | Sales     | 4     | 50000  | 10000  |
| 15  | 31619 Hodgson    | 5000   | Sales     | 2     | 40000  | 10000  |
| 16  | 1773 Howard      | 2000   | Mgr       | 3     | 80000  | 25000  |
| 17  | 2165 Hugh        | 1000   | Admin     | 5     | 30000  | ---    |
| 18  | 23907 Johnson    | 1000   | VP        | 1     | 100000 | 50000  |
| 19  | 7166 Laflare     | 2000   | Sales     | 2     | 35000  | 5000   |

DATA.WK3

File Edit Style Graph Print Database Macro Options Window

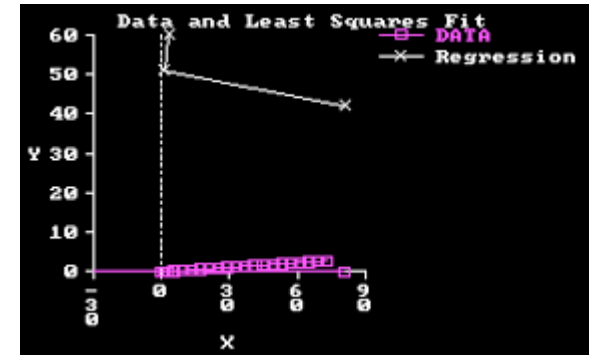
Macro Reformat A11-F2

Import Combine Extract Update Links Advanced Math Parse What-If Frequency Solve For Optimizer Audit Library

| DAY OF WEEK | DATE  | LOCATION  | TRANSPORT | TOTAL     |
|-------------|-------|-----------|-----------|-----------|
| SUNDAY      | 06/20 | SAN DIEGO | \$80.00   | \$105.95  |
| MONDAY      | 06/21 | SAN DIEGO | \$9.00    | \$143.05  |
| TUESDAY     | 06/22 | SAN DIEGO | \$27.55   | \$144.55  |
| WEDNESDAY   | 06/23 | SAN DIEGO | \$12.50   | \$207.75  |
| THURSDAY    | 06/24 | SAN DIEGO | \$0.00    | \$106.25  |
| FRIDAY      | 06/25 | SAN DIEGO | \$0.00    | \$110.95  |
| SATURDAY    | 06/26 | SAN JOSE  | \$202.00  | \$204.00  |
| TOTAL       |       |           | \$340.05  | \$1402.00 |

TOTAL BOTH WEEKS: \$2,190.98

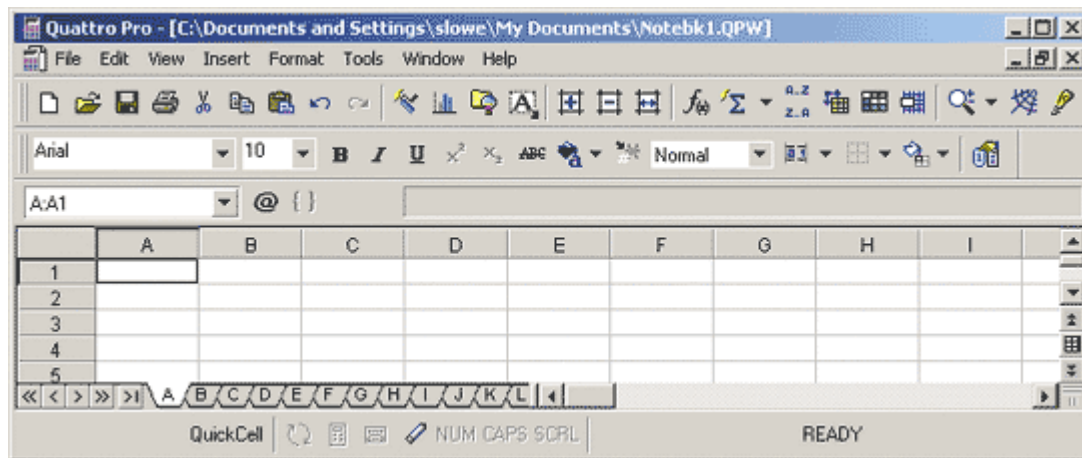
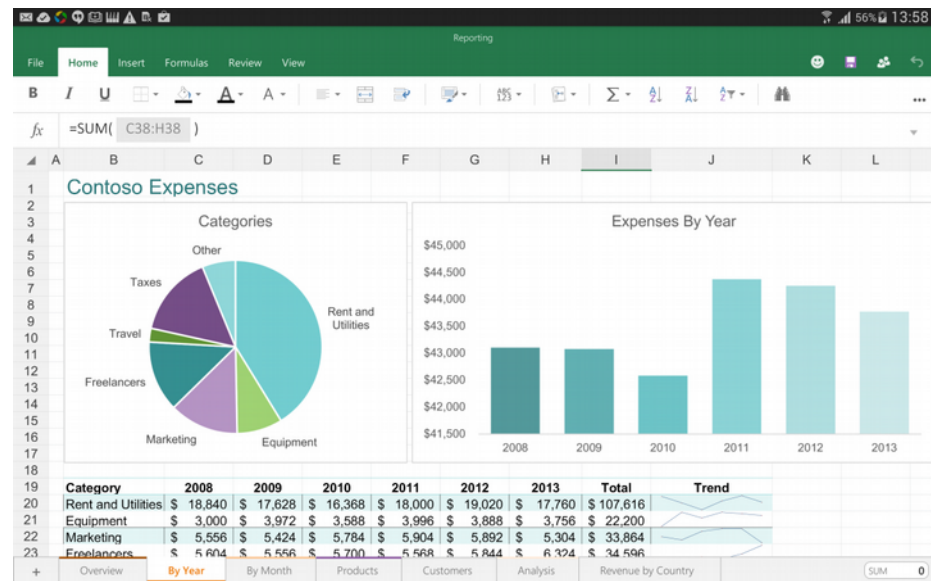
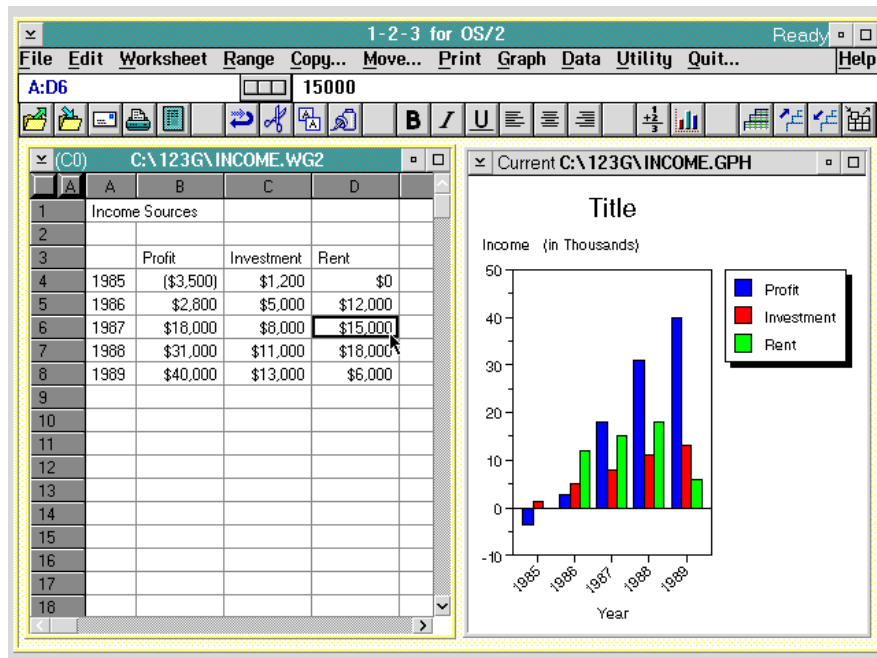
Create, execute, and debug macros: activate Transcrypt utility



|    | A                                    | B    | C    | D    | E    | F    |
|----|--------------------------------------|------|------|------|------|------|
| 1  | THIS IS A SAMPLE SUPERCALC WORKSHEET |      |      |      |      |      |
| 2  |                                      | JAN  | FEB  | MAR  | APR  | MAY  |
| 3  | NET SALES                            | 1000 | 1100 | 1210 | 1331 | 1464 |
| 4  | COST OF GOODS SOLD                   | 300  | 330  | 363  | 399  | 439  |
| 5  | GROSS PROFIT                         | 700  | 770  | 847  | 932  | 1025 |
| 6  | RESEARCH & DEVELOPMENT               | 160  | 176  | 194  | 213  | 234  |
| 7  | MARKETING                            | 200  | 224  | 251  | 281  | 315  |
| 8  | ADMINISTRATIVE                       | 140  | 151  | 163  | 176  | 190  |
| 9  | TOTAL OPERATING EXPENSES             | 500  | 551  | 608  | 670  | 739  |
| 10 | INCOME BEFORE TAXES                  | 200  | 219  | 239  | 261  | 285  |
| 11 | INCOME TAXES                         | 80   | 88   | 96   | 105  | 114  |
| 12 | NET INCOME                           | 120  | 131  | 144  | 157  | 171  |

Width: 25 Memory:506 Last Col/Row:N20 ? for HELP

Function keys: F1 = HELP ; F2 = ERASE LINE/RETURN TO WORKSHEET



# Database

- The “Black Art” of modern computing has always been Databases, and the Granddaddy of these was dBASE.
- Created by Ashton-Tate in 1980 for CP/M and later ported it to the Apple II and DOS.
  - dBASE was so popular it created many clones, the most notable were FoxBASE+ and Clipper.
  - However Ashton-Tate kept the crown, but made such a disastrous implementation of dBASE IV in 1991, that many customers moved to other xBASE products.
  - After that Ashton-Tate was purchased by Borland, and within a year Microsoft purchased FoxBASE+ and Computer Associates purchased Clipper.

# Database

- So now the xBASE language was being taken forward by three major suppliers.
- However by 2000 it was dying off due to the easy access to SQL products and the growth in popularity of Microsoft Access.
- Microsoft were late to the game with a database product, however once they introduced the FoxBASE+ best bits into Access they took the market lead.



| Application | Born | Died | Details   |
|-------------|------|------|---|
| dBASE       | 1980 | -    | Purchase by Borland in 1991, sold to dBASE LLC in 1998.         |
| Clipper     | 1984 | 1997 | Purchased in 1992 by CA, killed off in 1997.                    |
| FoxBASE+    | 1984 | 2010 | Purchased in 1992 by Microsoft, no longer developed since 2010. |
| Access      | 1992 | -    |   |

```

www.hpmuseum.net
B>do

*** dBASE II/86 Ver 2.41 6 JUNE 1984

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dBASE and ASHTON-TATE are trademarks of Ashton-Tate.

HELP LIST FILES LIST STRUC MODI STRUC 48 3 MODI COMM BROWSE EDIT QUIT
Num Pad 15:10

```

```

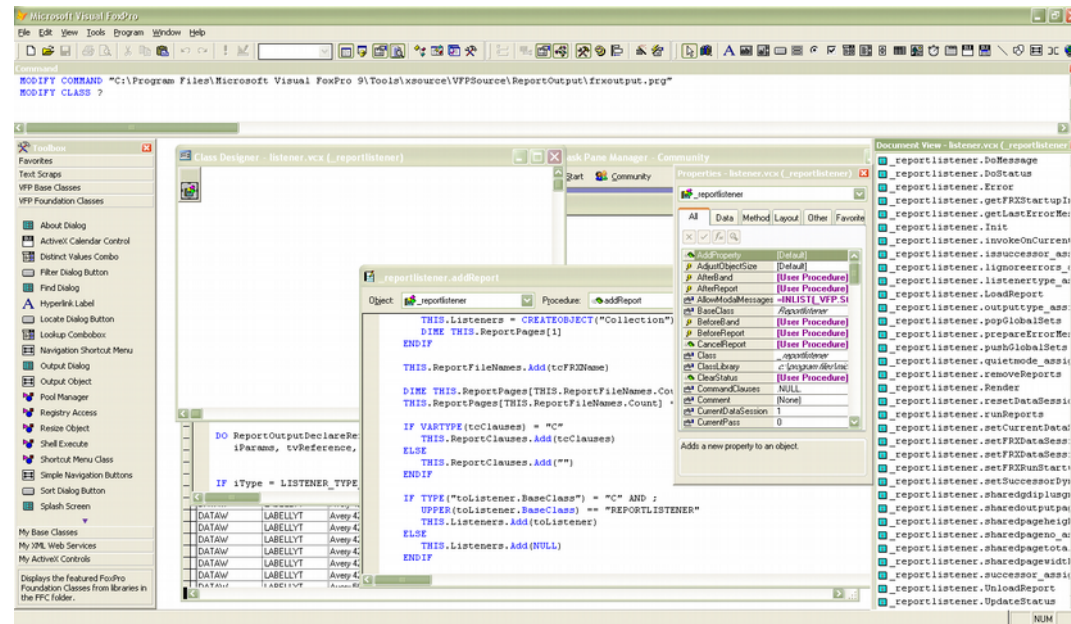
COMMAND - DOS in a BOX

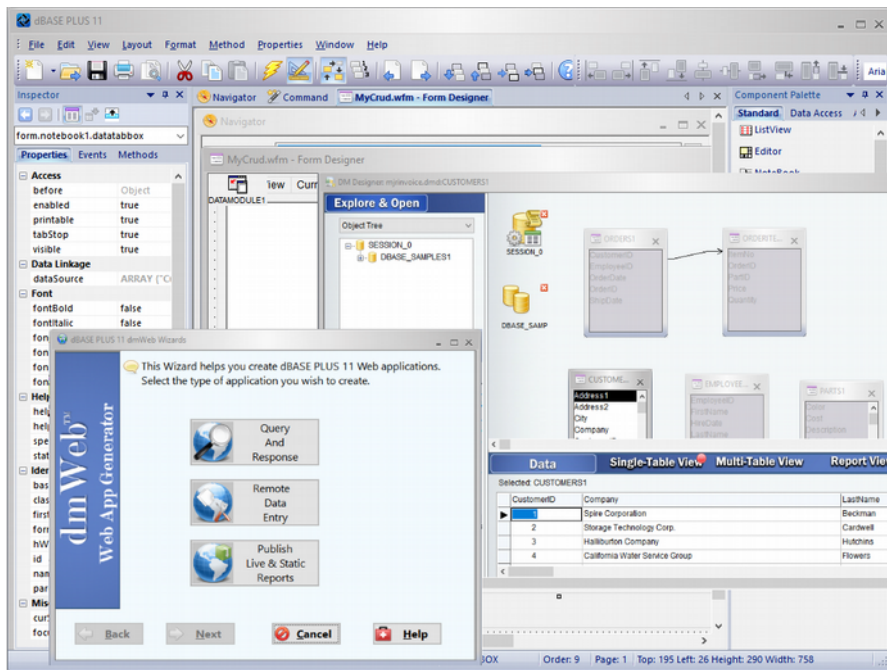
C:\test>copy world.prg con
world.prg => con
?"Hello world!"
C:\test>clipper world
Clipper (R) Version 5.01
Copyright (c) Nantucket Corp 1985-1991. All Rights Reserved.
Microsoft C Floating Point Support Routines
Copyright (c) Microsoft Corp 1984-1987. All Rights Reserved.
374K available
Compiling WORLD.PRG
Code size 51, Symbols 48, Constants 13
C:\test>rtlink file world
.RTLink for Clipper Dynamic Overlay Linker / Prc Linker Version 3.13
(C) Copyright Pocket Soft Inc., 1988-1991. All Rights Reserved.

134K
C:\test>dir/b
WORLD.EXE
WORLD.PRG
WORLD.OBJ
C:\test>world

Hello world!
C:\test>

```





```
*****
*
* Program.....: age.prg
* Author.....: J.A.Burt.
* Copyright....: (c) UK - Mr J.A.Burt. 1993, All Rights Reserved
* Idea.....: Borland TekFAX - Technical Note 1318
* Date.....: 17 August 1993
*
* Called From..: N/A
*
* Notes..: A UDF to calculate the age, from a given date field, to work
*         : properly it needs the system date of the PC to be correct.
*         :
*         : ie.      ? age({08/08/70})
*         :          . 23
*
*****
```

```
FUNC age
  PARA indate
  PRIV amt_years, month_ok

  amt_years = YEAR( DATE() ) - YEAR( indate )
  month_ok = IIF( MONT( DATE() ) >= MONT( indate ) .AND. ;
                 DAY( DATE() ) >= DAY( indate ), 0 , 1 )

  RETU amt_years - month_ok && age()
```

Public Function CalculateAge(DOB As Variant, Optional vDate As Variant) As Variant

```
' Author: Arvin Meyer, 5/15/97 (modified by Ken Snell, 9/8/2003)
' Notes: Age calculated as of vDate, or as of today if vDate is missing
' Arguments:
'     DOB (Variant)
'     vDate (Optional) (Variant)
' Returns:
'     Age in years, for a person whose Date Of Birth is DOB
```

```
If IsDate(vDate) = False Then vDate = Date
```

```
If IsDate(DOB) = True Then
```

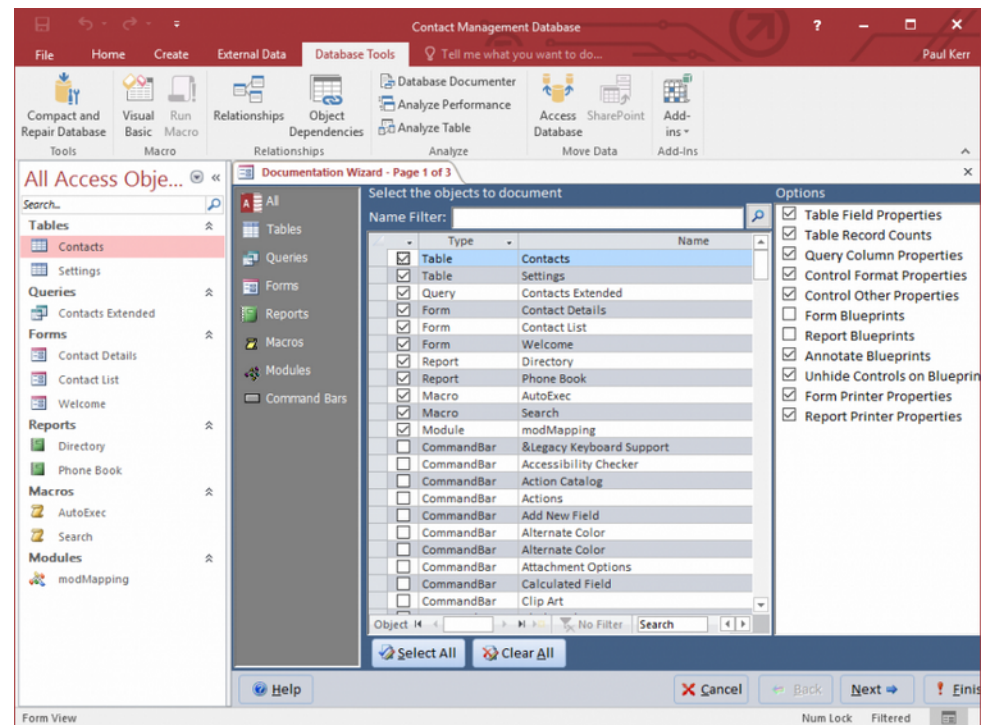
```
    CalculateAge = DateDiff("yyyy", DOB, vDate) + _
        (DateSerial(Year(vDate), Month(DOB), Day(DOB)) > vDate)
```

```
Else
```

```
    CalculateAge = Null
```

```
End If
```

```
End Function
```





# The Big Three!

- For many years the big three applications were:
  - dBASE
  - Lotus 1-2-3 (or SuperCalc)
  - WordPerfect (or WordStar)
- However, Microsoft was starting to eat into their market dominance, with Word, Excel and Access.
- Also, due to costs and inconsistencies between file formats for data sharing, many companies were starting to look more closely at standardising on Office Suites.

# Office Suites

- During the late 1980's there were a handful of Office Suites about, and the first was Starburst, which included WordStar as well as a CalcStar and InfoStar. There was also Microsoft Works which got released in 1988.
- But the idea really took off when Microsoft Office was released in 1990 with Word, Excel and PowerPoint for Windows 3.0. However, the apps had very little in common and worked together only under duress!
- Overtime more and more features have been added into Office Suites, and they are now much more integrated than in the beginning.

# Office Suites

- There are now many Office Suites available, for example:
  - Apache OpenOffice
  - Calligra Suite
  - Corel Office
  - Google Docs
  - LibreOffice
  - Microsoft Office
  - SoftMaker FreeOffice
  - SSuite Office Premium HD+
  - WPS Office Free

# Utilities

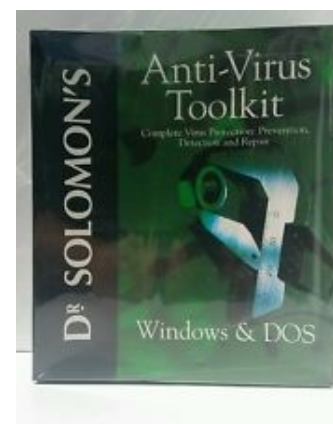
- Nowadays we are used to using the features built into Windows 10, for any “utility task”, for example:
  - Anti-Virus
  - Firewall
  - File Explorer/Manager
  - CD/DVD writing
  - Music Player
  - File Compression
  - Notepad
  - MS Paint
  - Undeleting a file!

# Utilities

- So, what utilities were there? Well there were hundreds...  
However, my favourites were:
  - Dr Solomon's AV
  - PaintShop Pro
  - PC Tools / Norton Utilities
  - PKZip
  - QEMM
  - Sidekick
  - Xtree

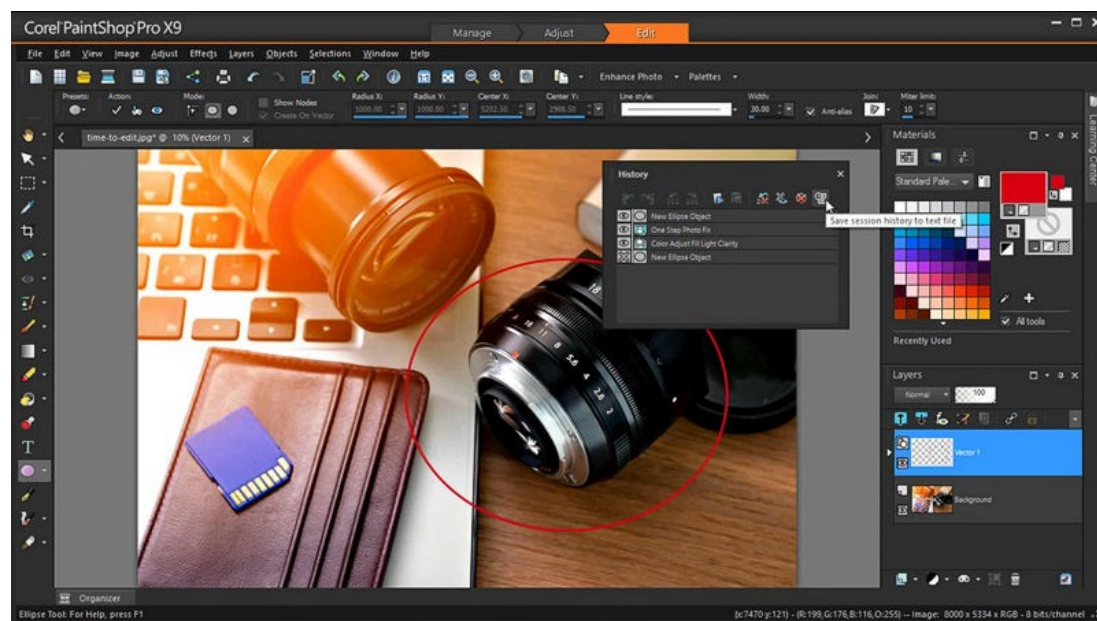
# Utilities – Dr Solomon's AV

- Dr Solomon's Antivirus Toolkit was an antivirus suite which incorporated prevention, detection and repair for DOS, Microsoft Windows (up to 98), Novell, SCO Unix, Sun Solaris and OS/2.
- It was created in 1988, and was one of the first and the market leader for many years. In 1998 it was purchased by McAfee (their main rival) and killed off!



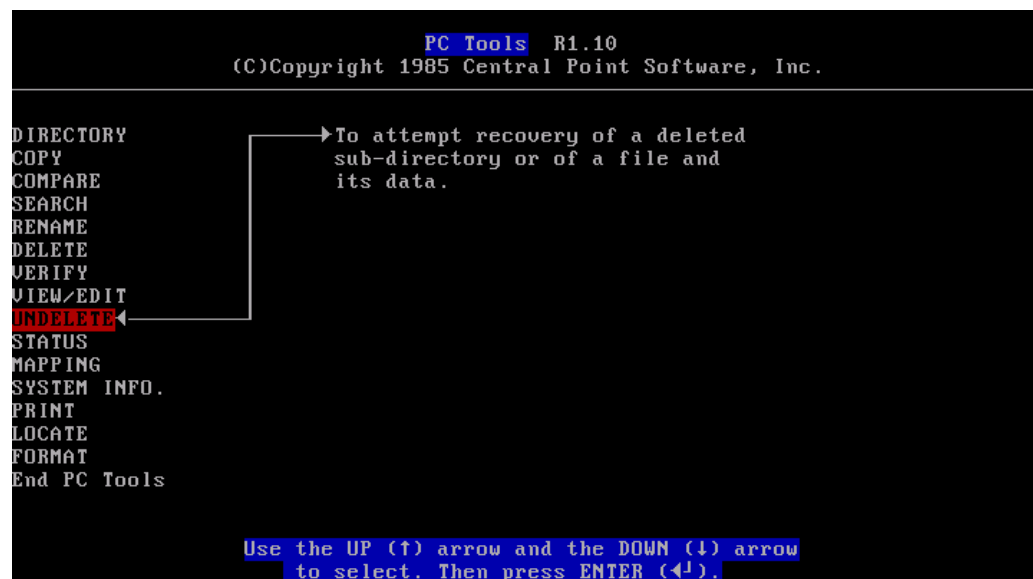
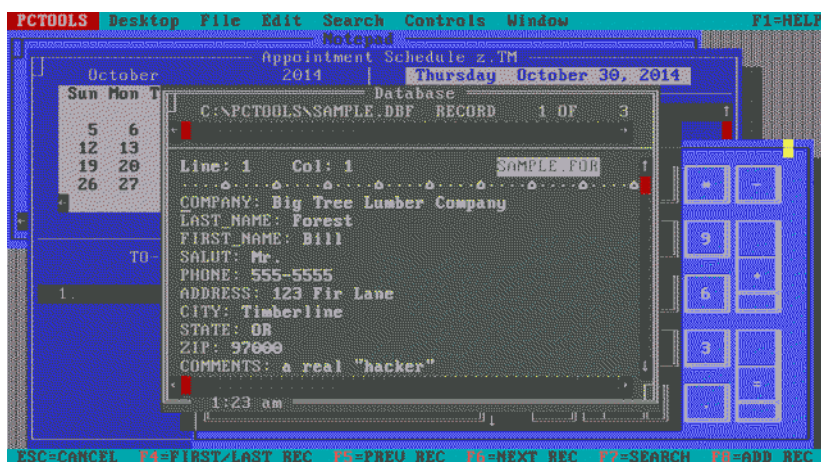
# Utilities – PaintShop Pro

- PaintShop Pro was released in 1992 (for Windows 3.1) and was the best graphic editor for many years. In 2004 Corel purchased it from Jasc Software, and it's still available today.



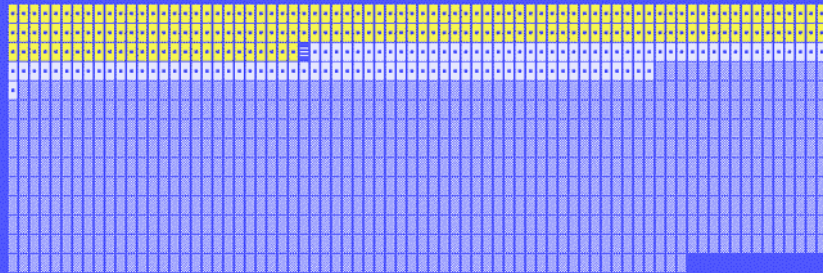
# Utilities – PC Tools / Norton Utilities

- At one stage, if you needed to undelete a file, fix a damage disk (hard or floppy) or even Search for a file or data within a file you needed extra software. This is where PC Tools came in, and it was released by Central Point Software in 1985, and it was a cheaper solution than it's main rival Norton Utilities.
- Symantec purchased Norton Utilities in 1990, and PC Tools in 1994, merging both into the now branded Symantec Norton Utilities.





# Norton Disk Doctor



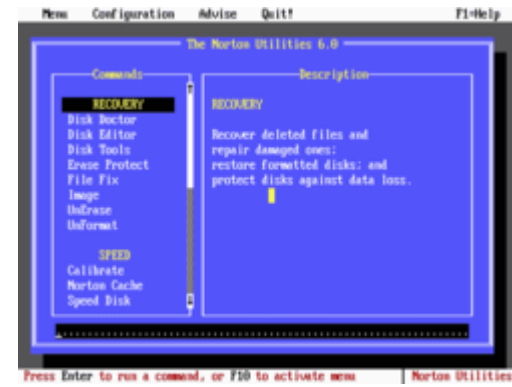
**Time**  
Estimated: 00:00:06  
Elapsed: 00:00:01

**Sector**  
Current: 44,935  
Total: 261,009

**Legend**  
 ■ - Block Being Tested  
 □ - Used Block  
 □ - Unused Block  
 B - Bad Block

**Progress**  
 Drive C: Pass 1 of 1 17%

1 Block = 248 Sectors



## Norton Utilities

Activate Now

Help

### Optimize

System Health  
HIGH



Start Scan

Optimize

Maintain

Recover

Windows Tools

Administer



#### Clean your Registry

Scan and safely clean, repair and optimize the Windows registry



#### Defragment your Registry

Defragment and optimize your registry



#### Tuneup your Services

Optimize and manage your Windows Services



#### Optimize your System

Optimize and monitor your system for better performance



#### Clean your Disks

Clean your Computer and Internet traces



#### Defragment your Disks

SpeedDisk optimizes and defragments your disks

Norton Utilities  
29 days remaining

[v15.0.0.122]



# Utilities – PK Zip

- Due to the limited storage space we used to have, if you needed to move files between computers you wanted to compress them. Also, if you used a BBS (Bulletin Board Systems) the files you downloaded were also archived.
- The first one available on PC's was .arc, however it was unable to compress directories, so only useful for compressing a selection of files in the same directory.
- This all changed with PK Zip v0.9 was released in 1989. Since then .zip has become the de facto standard for compressed files, and eventually the file format was released into the public domain.

```
PKZIP (R) FAST! Create/Update Utility Version 2.04g 02-01-93
Copyr. 1989-1993 PKWARE Inc. All Rights Reserved. Shareware Version
PKZIP Reg. U.S. Pat. and Tm. Off. Patent No. 5,051,745

PKZIP /h[1] for basic help PKZIP /h[2:3:4] for other help screens.

Usage: PKZIP [options] zipfile [elist] [files...]

Simple Usage: PKZIP zipfile file(s)...
               |           |           |
Program -----|           |           |
               |           |           |
New zipfile to create -----|           |
               |           |           |
File(s) you wish to compress -----|

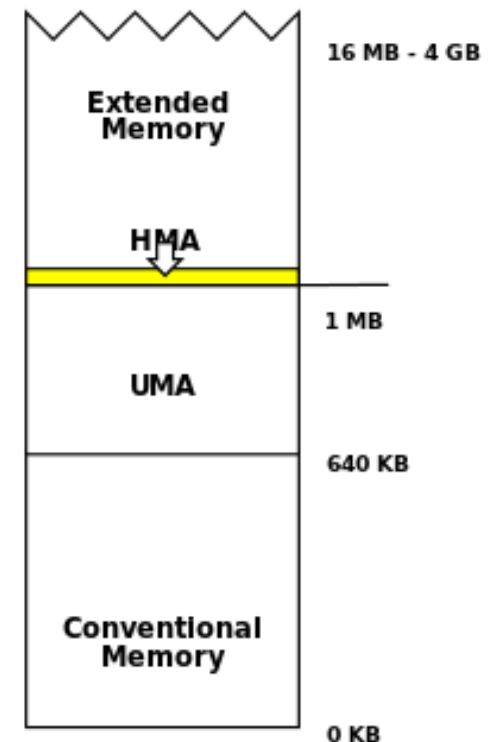
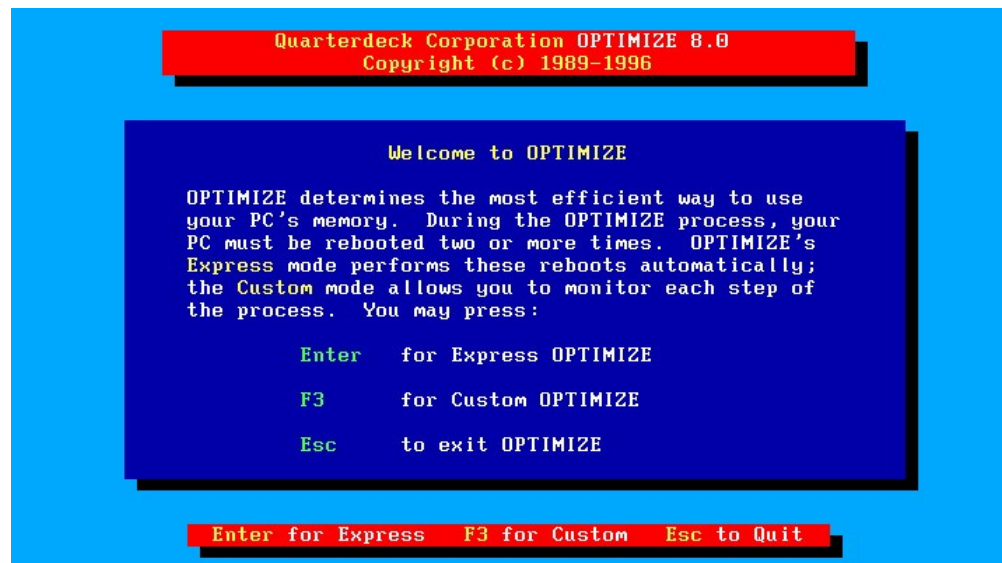
The above usage is only a very basic example of PKZIP's capability.

Press 2 for more options (including spanning & formatting), press 3 for
advanced options, 4 for trouble shooting options, any other key to quit help.
```

[illegible]

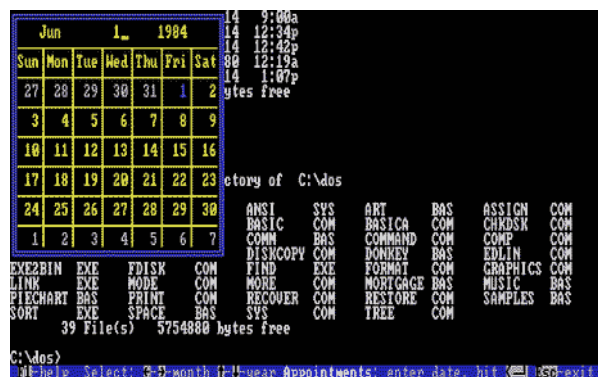
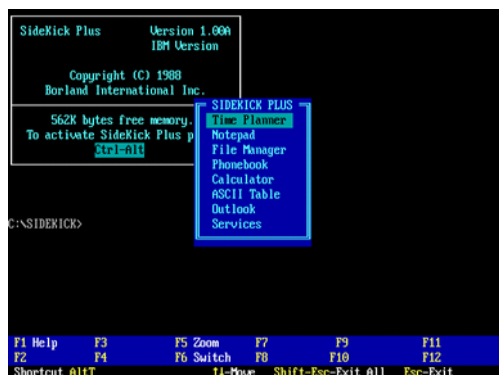
# Utilities - QEMM

- A wonderful DOS/Windows (pre-XP/2000) memory manager, which enabled you to access more base memory (under 640k) than DOS/Windows did by default. It was released in 1988, and died-off due to the fact Windows 95+ didn't need this type of memory management anymore (as it was built in).



# Utilities - Sidekick

- Sidekick was a personal information manager (PIM) that Borland launched in 1984. It was an early and popular terminate and stay resident program (TSR).
- It was a wonderful set of tools, which when ran stayed in memory while you use other programs, and you could call it up by a hotkey (Ctrl-Alt was the default), use it, and then return to your original program. The tools included:
  - Calculator (Business, Scientific, Programmer, Formula), Notepad, Appointment Calendar, Auto Dialer, ASCII Table, Clipboard



# Utilities - XTree

- XTree is a file manager program originally designed for use under DOS. It was first released on 1 April 1985, and became highly popular. The program uses a character-mode interface, which has many elements typically associated with a graphical user interface.
- In 1992 XTree for Windows was released and was a flop, XTree was later purchased by Central Point Software and then Symantec, who stopped development in 1995.

```
Path: C:\DOOM2 14-02-87 7:48:53 pm
c:\
├── doom2
├── skyroads
├── telix
├── windows
├── system
├── temp
├── wolf3d
├── word55
└── xtgold

FILE *.*
DISK C:\_DRIVE
Available 14,235
Bytes 110,540,000

DISK Statistics
Total
Files 461
Bytes 33,468,091
Matching
Files 461
Bytes 33,468,091
Tagged
Files 0
Bytes 0
Current Directory
doom2
Bytes 15,778,413

default .cfg      serssetup.exe    readme .txt
modem .cfg        setup .exe       doom2 .wad
doom2 .exe        modem .num
lpsetup.exe       modem .str
```

```
Path: \XTREE_2.0\EVAL.VER
PROGRAMS
├── FILEMANS
├── DISKTREE
├── TREE86
├── TEMP
├── XTREE_1.06
├── XTREE_2.0
├── EVAL.VER
└── HP_EVAL.VER

FILE: *.*
DISK: A: FLOPPY
Available
Bytes: 8,704

DIRECTORY Stats
Total
Files: 7
Bytes: 144,230
Matching
Files: 7
Bytes: 144,230
Tagged
Files: 4
Bytes: 94,737
Current File
REGISTER.FRM
Bytes: 3,047

2_OCEDOC.TXT 83,517* .a.. 4-11-90 6:24 pm
LICENSE.TXT 5,756* .a.. 4-13-90 9:35 am
PRINTDOC.BAT 1,236* .a.. 4-11-90 6:02 pm
READ.ME 4,228* .a.. 4-13-90 9:50 am
REGISTER.FRM 3,047 .a.. 4-11-90 6:05 pm
SHAREWAR.ZIP 2,514 .a.. 10-14-94 6:19 pm
XTREE.EXE 43,932 .a.. 4-12-90 10:12 am

FILE AAttributes ACopy ADelete Filespec Log disk AMove APrint
COMMANDS ARename ATag AUntag View eXecute
+fl+ scroll RETURN expand display ALT menu F1 quit F2 help F3 cancel
```

# Further Information

- Wikipedia
  - <https://en.wikipedia.org/>
  - [https://en.wikipedia.org/wiki/List\\_of\\_office\\_suites](https://en.wikipedia.org/wiki/List_of_office_suites)
- Lots of useful tutorials
  - <http://www.howtogeek.com/>



# Questions?

Does anyone have any questions?

