Issue 161

April 2008

ISLE OF WIGHT PC USER GROUP

HOT KEY

SPRING 2008

Michael Hodge gave a talk about writing Macros for Excel and showed an interesting program that he had written to calculate the date of Easter in any year

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The Isle of Wight Personal computer User Group

The Isle of Wight PC User GROUP

Welcomes all owners and users of IBM compatible Personal Computers.
It is a group which seeks to exchange ideas and new information.
Our meetings are held on the first Wednesday of each month at **The Riverside Centre, Newport** from 7.30 to 9.30 pm
Visitors are welcome. **Membership is £6 per annum**
A charge of £1 is made per meeting, which includes tea or coffee during the break.

If you would like to know more about us, you are most welcome to come along to one of our meetings, or you can contact one of our Committee Members listed on page 3.

The Club Website address is **www.iwpcug.org**
We also have an e-group discussion area
Yahoo iwpcusers: **iwpcusers@yahoogroups.com**
See page 5 for how to join

FORTHCOMING EVENTS

Date	Subject	Speaker
2 April	Suduko	David Broughton
7 May	3D Graphics	Richard Burkill
	June and July not yet arranged	
August 6	BBQ	

See our Website for more information as it becomes available

ISLE OF WIGHT PC USER GROUP COMMITTEE MEMBERS

Chairman: David Groom

Vice-Chairman: Cliff Maidment

Treasurer: Bob Groom

Secretary: Susanne Bone

Membership & Database Secretary: Ray Boote

Committee Member: David Broughton

Committee Member: Roger Skidmore

HotKey Editor: Bob Groom (as above)

Contact details removed prior to publishing to the internet

Suggestions for new events, topics or speakers for talks are always welcome.
Please contact any committee member with your ideas.
.
If necessary we may be able to find a speaker for your subject.

Chairman's Report

First the good news. The AGM was better attended than last year, and the members present expressed a wish that the club continue, and that in the event of no speaker was available to do a new talk, that an alternative should be found rather than simply not having a meeting. The cover disk was also seen as a useful resource. We have so far this year had a full program of events, and have speakers lined up for a few more months, details are on the inside cover as usual.

Now the bad news. No new members have put their names forward to join the committee despite repeated requests for new blood. The time is fast approaching where one or two members of the current committee will no longer continue to serve, and it would be unreasonable for the existing committee members to take on extra duties.

On a brighter note, this months cover disk contains some programs not featured before. Some tie in with this months HotKey, others with future talks, and others are just included simply because I thought they would be useful.

Lastly, it was mentioned at the AGM that members might like some of our monthly talks to be on a more basic level. Perhaps members could contact me with suggestions.

David Groom
Chairman

HOW TO JOIN THE E-GROUP

Send a blank e-mail to**: iwpusers-subscribe@yahoogroups.com**

All members are encouraged to join this e-group (which costs nothing and is private to all club members) in order to keep in touch with events and join in with discussions.

You can also keep in touch by regularly visiting **www.iwpcug.org.**

Summary of the AGM

The full version of the draft AGM minutes is on the club web site at http://www.iwpcug.org/secure/agmmin08.htm

For those of you unable to get to the AGM, and without internet access I thought you might like a quick summary of the AGM which was held in February.

The Treasurer reported that there was a small loss for the year, this was expected, owing to the decision to run down the bank balance. Increased costs included room hire as the Riverside centre had raised their charges (this will mitigated to some extent in 2008 by Committee meetings now having been moved from the Riverside Centre to a private house).

The membership secretary reported 78 Members at year-end, as compared with 77 last year, average attendance at our monthly meetings was 21 (18 last year).

The committee remains unchanged from the previous year. The motion to change the Constitution, allowing the Committee to meet “at least once every two months”, rather than monthly as previously, was carried.

The question of the future of the Club, given the difficulty of finding speakers, was raised again. D. Broughton canvassed those present as to whether widening the scope of talks would be acceptable, if no speaker were available to talk on a computer-related topic.D.Groom asked Members if a reprise of a recent subject would be welcomed under these circumstances, or even cancellation of the meeting. No-one wanted cancellations, about 50% of those present would like to revisit recent topics and a majority would be in favour of an occasional talk on another subject. B. Groom mentioned a group he knew on the mainland who had a one hour talk, which would be less demanding of the Speaker, followed by a one hour Q and A session. A majority of those present welcomed this idea.

David Groom

Hard Disk Partitioning

Disk partitioning is the act of dividing a hard disk into separate distinct areas. Once a disk is divided into several partitions, directories and files can be grouped by categories such as data type and type usage. More separate data categories provide more control, but too many become cumbersome. Space management, access permissions and directory searching are based on the file system installed on a partition.

Standard Partitioning schemes

Microsoft Windows

With Microsoft Windows, the standard partitioning scheme is to create a single active primary partition, the C: drive, where the operating system, user data, applications, and page file all reside. Some users, however, prefer to create multiple partitions so that the operating system can be stored separately from other kinds of data.

Linux

Must have separate partition for the swap file, and frequently has separate partitions for /boot, /home, /tmp etc.

Benefits of Partitioning

- Separation of the operating system files from user files. Makes the computer easier to maintain without worrying about losing work when things go wrong, as you can erase a single partition (typically the operating system itself) while retaining the other data.
- Defragment the Data partition more quickly, which further reduces potential downtime.
- Some filesystems (e.g., old versions of the Microsoft FAT filesystem) have size limits that are far smaller than modern HDDs. Thus, multiple filesystems make it possible to use more of the HDD.
- The use of multi-booting setups, which allow users to have more than one operating system on a single computer. For example, one could install Linux, Mac OS X, Microsoft Windows or others on different partitions of the same hard disk and have a choice of booting into any operating system (supported by the hardware) at power-up.

- Raising overall computer performance because smaller filesystems are more efficient. For instance, large hard drives with only one NTFS filesystem typically have a very large Master File Table (MFT) and it generally takes more time to read this MFT than the smaller MFTs of smaller partitions.

Partition Types

A PC hard disk can contain either as many as four **primary** partitions, or 1-3 primaries and a single **extended** partition. A hard disk may contain only one extended partition, which can then be sub-divided into **logical** partitions.

A primary ,or a logical, partition contains only one file system.

How to Partition

Microsoft provides basic utilities that let you partition and format hard disks for use with their operating systems. These include FDISK, which creates and deletes partitions, and FORMAT, which allows you to format a hard disk to ready it for use. These programs are functional, but rather crude. They let a "typical user" do the basics, but nothing else. If you are someone who tinkers with hard disks a great deal, or works with many systems, you will quickly discover that the tools built into DOS and Windows are inadequate for doing many things you will need and want to do.

To fill this gap, several companies have created third-party partition management utilities, which can do everything that FDISK and FORMAT can do, and a lot more as well. The most well known of these is the Partition Magic program, which is now produced by Symantec.

In addition to the mundane--letting you see the partitions on each of your hard disks, partitioning and formatting disk volumes, assigning labels and so on--partition management utilities typically include the following features:

- Non-Destructive Partition Manipulation: You can shrink, expand or move partitions without losing the data on them. This is the primary claim to fame of Partition Magic and programs like it, because this addresses a major weakness of Microsoft's FDISK: it does not allow you to change partitions in any way.
- Partition Copying: You can copy a partition from one hard disk to another. This is very useful for those upgrading systems.
- File System Conversion: If your system supports FAT32, you can convert partitions of the appropriate size from FAT16 to FAT32, or vice-versa. You can

also convert from FAT16 or FAT32 to NTFS, or vice-versa, on newer versions. This conversion is also non-destructive.

- Cluster Resizing: You can change the cluster size of an existing partition, again, non-destructively.
- Other: Depending on the software and its specific version, you can also do things like setting up a boot manager for multiple operating systems, creating rescue disks, and so on.

Partitioning programs

There are many patitioning utilitities available, see http://en.wikipedia.org/wiki/List_of_partition_utilities for a longer list, but below I highlight a few

Disk Director Suite 10.0	Acronis	- Download $49.99
Partition Magic 8	Symantec	- Download $69.95
GParted	- Free, and included on this months cover disk	

Partitioning Example

The top image on the back cover shows a screen shot of the GParted program running on one of my computers. I wanted to be able to dual boot into both Windows XP, and Windows 98, and so partitioned my hard drive. We can see form the top right of the image that the physical size of this disk is 38.29 GiB ("gibibytes = 1024^3 bytes"). This has an extended partition of 35.12 GiB, and a logical partition of size 2.99 GiB formatted as FAT 32 and which contains my Windows 98 system. The Extended partition is divided into two partitions, one of 26.37 GiB with an NTFS filesystem on it, which contains my Windows XP system; and a smaller one of 8.75GiB with a FAT32 filesystem, which contains data. We can see from the bottom of the list that there is 172.57MiB of space which is not being used, and I should really move or enlarge some of the existing partitions so I use this space.

I decided to tidy the disk up. First I moved the logical partition to the end of the drive, to eliminate the spare space that did exist there, and I increased this very slightly to be 3GiB in size. I then grew the extended partition to fill the remainder of the disk, and then resized both partitions, which are in the extended partition. This utilised all the space on the disk, and gave be a bit more free space in my Windows XP system, and my data partition. The result can be seen in the bottom image on the back cover.

Having done so I did have some problems accessing my Windows XP system and the Windows 98 system. The problem was due to the fact that I was using the inbuilt Windows XP boot loader to manage the booting into either my XP, or my Win 98 installations. It would therefore have occurred whatever partitioning program I had used to re-arrange my disk, and is not the fault of GParted. See page 10 for more details.

David Groom

Cover Disk

A few new programs make it onto the cover disk this month. Look on the cover disk index for a full listing.

POV-Ray (Persistence of Vision Ray-Tracer) creates three-dimensional, photo-realistic images using a rendering technique called ray-tracing. It reads in a text file containing information describing the objects and lighting in a scene and generates an image of that scene from the view point of a camera also described in the text file. Ray-tracing is not a fast process by any means, but it produces very high quality images with realistic reflections, shading, perspective and other effects.

GParted is a package for creating, destroying, resizing, moving, checking and copying partitions, and everything on them. This is useful for creating space for new operating systems, reorganizing disk usage, copying data residing on hard disks and mirroring one partition with another (disk imaging). As with all partitioning tools this program should be used with caution.

I've included the latest version of OpenOffice, the free office suite which includes word-processing, spreadsheet, presentation, and other office software.

Also new is 7-Zip an archive manager, and the latest version of Adobe Reader.

The cover disk also includes the latest versions of Firefox, SpyBot, AdAware & AVG antivirus, together with some other utilities.

I'll also try and include the April 2008 edition of HotKey in pdf form, if time permits

David Groom

Multibooting using the Windows XP (or NT) bootloader

I initially installed windows XP four years ago. Before I installed windows XP my computer already had an active boot partition (C:) that included a Win98 partition boot sector and the Win98 system files. The XP-Setup routine copied the existing Win98 partition boot sector into a file, bootsect.dos, and replaced the partition boot sector with a XP version. Since the XP boot sector expects to find the XP startup files (ntldr, ntdetect.com and boot.ini) in the root directory of the same partition, XP-Setup puts the startup files in C:\. Note this is the partition the Win98 system was already in, but it now has a XP boot sector and XP startup files. XP-Setup then installed the rest of the XP operating system itself to the new partition and gave it some other drive letter—in my case G:. Boot.ini was then configured with two entries, one for Win98 on C: and the other for WinXP on G:.

My C: partition now had the Win98 startup files, the WinXP startup files, a XP boot sector, and a file (bootsect.dos) containing the old Win98 boot sector. The rest of the Win98 operating system was in a directory on the C: partition (C:\Windows), while the rest of the XP operating system was in G:\Windows. At boot time the MBR passes control to the partition boot sector--which, remember, is now a XP boot sector. Boot code in the XP boot sector takes control and a menu is displayed from boot.ini to choose which OS to continue booting either 98 or XP. If I choose XP, the XP boot files on C: load the XP operating system from drive G:. But if I choose 98, the XP boot files recall the 98 boot record from the saved file, step out of the way, and let the 98 boot record take over and load the 98 operating system from C:, just as though the MBR had passed control to a 98 boot sector in the first place.

Problems when later moving the windows 98 partition

Tools like Gparted or PartitionMagic can non-destructively resize partitions and adjust the Partition Boot Record correspondingly, but the 98 "boot sector" was captured 4 years ago and tucked away in the bootsect.dos file. It didn't get changed when I resized the partition, so when I later tried to boot 98, the “captured” boot sector in bootsect.dos no longer matched the partition, and my computer wouldn’t boot to Win 98.

The solution to the problem took hours of research on the internet, but in the end was a 5 minute process. In essence I had to rebuild the partition boot record bearing in mind the start of the partition was now in a different place on the disk, and then get XP to use that new record when the bootloader tried to boot to the Win98 partition.

The steps I did are outlined below:

1 - create a bootable floppy, which also has the DOS files “debug.exe” and “sys.exe” on it;
2 – boot from the floppy and then run the command SYS C: . (This might not be necessary in all cases – a warning in the Partition Magic handbook notes that in some cases resizing a FAT partition displaces files such as IO.SYS and SDOS.SYS which need to be put back using the command SYS)
3 - use the command “debug <read.scr” to recreate the bootsect.dos file, which now will have the correct partition table details in it. To see what needs to be in the file “read.scr” do a search on Google for “debug <read.scr”.
4 – Use the Windows XP installation disk to run a recovery console, and choose the “repair” option. Drop out to the Windows XP directory and then type “fixboot”, which will replace the WinXp bootloader which was deleted in step 2.
5 – all should now work.

Moral of the story

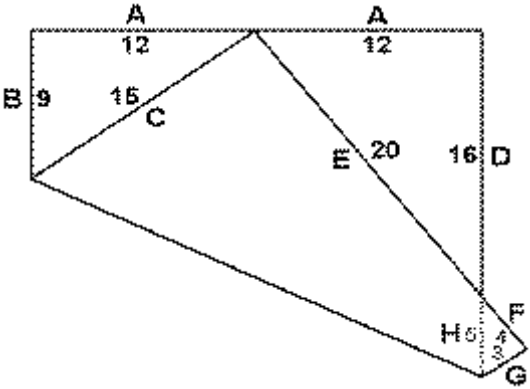
1) Think very carefully before resizing partitions if you are using the Windows XP (or NT) boot loader to multiboot operating systems.

2) Don’t use Windows XP (or NT) boot loader to multiboot operating systems, but multiboot a different way. (see the next issue in July for various other ways to boot into different operating systems on the same computer)

David Groom

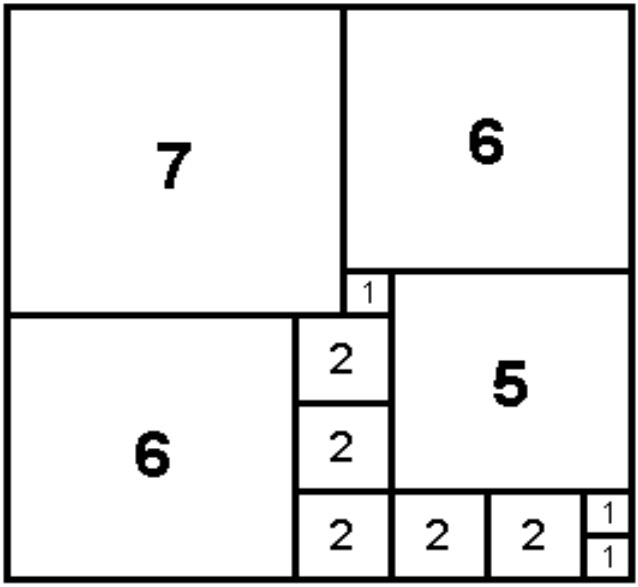
Internet Radio and TV

Since putting Linux on my machine I have been playing with Internet Radio and TV. It seems that both types of program are available from two different sources. Major broadcasters stream directly and one needs to find the URL of the particular broadcaster. There a also quite a few “ Hosting “ websites that seem to get the stream from the broadcaster and re-distribute it. These Radio sites are mostly free but the TV host all seem to demand a registration fee. The few free TV hosts that I have found are mainly news and advertising. Some of the URLs are :---
Radio hosts:--www.reciva.com (over10K stations) www.shoutcast.com www.sky.fm www.181.fm www.live365.com www.tuned.mobi
TV hosts were much more difficult to find:--www.tvokay.com (difficult to navigate) www.craftytv.com was the best with stations from many countries.
Not forgetting www.bbc.com !! Bob Groom



This is the solution to the January Puzzle

David's Puzzle for this Edition



The square shown above is of size 13 x 13 units and contains 12 other squares that completely cover the area. The puzzle this month is to construct a similar square, 13 x 13 units and fill it completely with just 11 smaller squares.

Send your diagram to me, David Broughton (see page 3 for address) to arrive not later than 7th May to be entered into the prize draw.

Internet- Past, Present and Future

On the Cover Disk there is a very interesting article by an old friend (not quite as old as yours truly) covering a talk he gave to a club such as ours in his home town Portland, Oregon, USA. It covers the history of the "telegraph " from its conception in 1791 to the present day and has some remarkable predictions as to the future !

In 1791 a French gentleman, Claude Chappe designed and patented a sort of "optical communicator" which used black and white rotating elements on a tower to send a message using a special code across the visual range of about 10 miles. He called this a " Telegraph ". Napoleon Bonapart set up a network of these to communicate with his armies over Europe

Sweden and Britain copied his design and the Admiralty set up a line of these from London to the south coast.

The system was modified and improved by George Murray to enable 64 different charaters to be represented. By the 1830's there were over 1000 optical telegraphs throughout Europe.

By this time, electricity had been discovered and the first electrical telegraph was demonstrated over 13 miles from Paddington to West Drayton.

In 1832 Mr. Morse designed his code and by 1846 he had demonstrated a working link from Washington to Baltimore. By 1850 there were 12,000 miles of cable and 20 different telegraph companies and in 1861 the lines reached California, and over the next few years there were many developments, such as duplexing and multiplexing, to improve the speed of transmissions.

In 1875 Graham Bell invented the telephone and by 1900 there were over 2 million telephones in use. The number must be now approaching infinity !!

After the invention of the computer and data transmission became desirable, the telephone network was more or less the obvious vehicle.

In early 1970, Tim Berners-Lee designed a prototype " packet " system to transfer data between universities and research organisations, and this of course became the Internet. In the last 20 or 30 years this has become the greatest communication system that the world has ever seen. In April 2000 apparently the Net had access to over 1 billion documents.

The article elaborates on all this and goes on to include some predictions as to what the future might hold. I do recommend that you read this.

Bob Groom

UBUNTU Linux 7.1

After last month's talk, I decided to go a bit more deeply into Ubuntu Linux and determine to what extent it would be a real alternative to Windows. There has been some thought given to the possibility of putting Linux on the machines that are loaned and given or sold to Computability Clients.

I had bought a book about Ubuntu which included a DVD for version 6.06 with something over 200 programs on it, but decided to upgrade to the latest version 7.1 from the DVD that came with the magazine Linux Format and I bought a new hard drive which I shall probably keep for Linux.

Installation was no real problem and was considerably faster than that other OS. Partitioning the drive enables the computer to boot from either Linux or Windows from a choice on the boot-up screen.

There are two main " Desktops " available in Linux (and about half a dozen others if you're really keen). These are known as Gnome and KDE. When I tried Linux 4 or 5 years ago I found I preferred KDE but having now used Gnome quite a bit I am sticking with that. Both desktops are available in Ubuntu and some of the KDE programs are very useful and can be used in Gnome.

Configuration for Broadband seemed to be fairly simple and is really necessary for downloading some of the more exotic programs that are not included on the disk, and for instance for streaming Radio and TV from the Internet. There are free (Open Source)programs available for practically everything you could possibly think of for 99% of normal computer use.

On my computer at the moment I have the following programs:--.

OPEN-OFFICE for Word Processing, Spread Sheets, Data-Base, Presentations and reasonably complex Vector Drawing.
GIMP is one of the best Image Editing programs available for any OS (but does need a certain amount of learning !) There is also another simple but quite adequate Image Editor and thumbnail viewer called GTHUMB and a screen capture program called SNAPSHOT.
INKSCAPE is one of the world leaders for Vector Drawing but again there is a fairly steep learning curve !
FIREFOX is one of the world's leading Web Browsers and comes with Flash and a few other Gizmos included.
EVOLUTION is a comprehensive E-Mail program very similar to that other one.

PAN Newsreader is one of the best around.
SCRIBUS is a comprehensive Desk Top Publishing program and I had thought of doing this edition of HotKey on it but in the event I decided to stick with the devil I know, at least till the next one !

I have programs for playing and writing CDs and DVDs in data, sound or video formats. I have also acquired some, but not yet all of the " codecs " necessary for streaming Radio and TV from the Internet. Radio is quite well dealt with but some more "tweaking" and expertise is needed to do a good job in the TV line ! (See page 11)

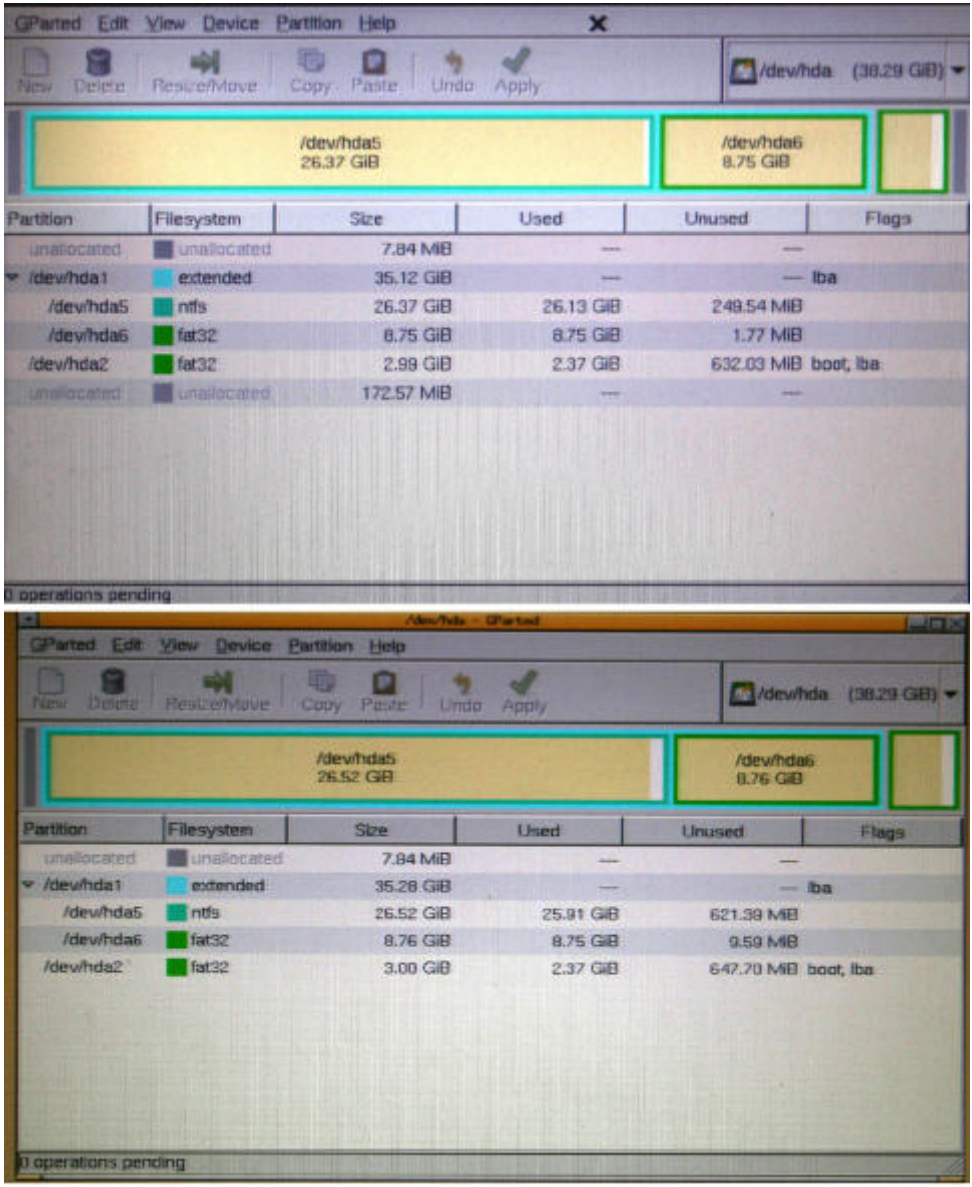
Ubuntu has considerably simplified the process of installing new programs or "applications " as they are called in Linux. You will probably have noticed that when you install a new program in Windows there are quite a few "dll " (Dynamic Link Library) files installed. The same sort of thing is necessary in Linux and they are here called " dependencies " (and most of the are "lib" files). In some versions of Linux, as was the case with my previous version, these dependencies had to be located and loaded as a separate exercise. Ubuntu uses what is known as the " Debian " system of package management and all the necessary dependencies are included in the installation, making it little more than a " click and load " process. All the programs currently on my machine have come from the original DVD with some of the extras, like the codecs, from the net.

Each program (in the " applications " list) has an icon which can be dragged and dropped on to the desktop and the program opened by the usual clicking on the icon. The appearance of the desktop is essentially the same as in Windows and can be customised in the same manner.

When Ubuntu is installed it automatically searches for hardware and on my machine recognised the Soundblaster sound card and the on-board sound system, the Nvidia G Force graphics card and my Waycom graphics tablet. It also recognises the USB Flash Sticks. It does not like my Epson printer, but David's slightly older model is OK. I have yet to configure my Scanner. If migration to Linux is intended it is really necessary to make sure that drivers are available for any devices that you need to purchase All things considered it is a remarkably able OS, and costs nothing !!!

The Editor

Partitioning example, using the GParted program (which is on the cover disk), see pages 6-9.



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