Launceston Computer Group INCORPORATED

NEWSTREAM

The Journal of the Launceston Computer Group Inc

ABN 41 451 764 376

Volume 3 Issue 9
October 2004

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Deadline : 10 Days before Meeting
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Single $10, Family $15 (Includes Email edition Newstream)
Printed & Posted Newsletter $20 extra

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Ron's Ramblings

This month we are starting our new arrangement of having a Workshop at 7 PM on the first Wednesday of the Month and hopefully a guest speaker afterwards. Committee Meetings are now being held on the **second Wednesday** at 7.30 PM. A more civilised time!!

Some Software Suppliers email the group offering to let us "Test Drive" their software. In the past I've asked for full versions and we have been successful in receiving full versions of programmes. Ask me at the meeting for more details. However this month we have been given some vouchers for free versions of "Complete Inbox Protection" to give away. Come along to the meeting and maybe you will be a lucky winner.

We are also on the look out for members to test these programmes. Let me know if you are interested.

On another front, I have listed the Group as a User Group under Microsoft's Mindshare Web site. This enables us to request programmes to review. On behalf of the Group, I've requested about 5 Programmes to evaluate, including, Microsoft Office 2003, Publisher 2003, Encarta, Age of Empires II Gold, Zoo Tycoon. I am hoping these will not be time limited. Each time I went to add another item, the previous ones have been marked "Awaiting Approval". However the last time I accessed the site, These items had disappeared. I am hoping that means that they are on the way.

For my own benefit, I ordered the CD for Windows XP Service Pack 2. The acknowledgement of the order said it would take 4-6 weeks for delivery. I must report that I received the CD in less than 2 weeks.

In my usual foolhardy way I set out to install the programme without backing up all my files. But I must report that other than taking more than an hour on my 350 MHz Pentium 2,. There was no hassle.

One gets used to being reminded to update the Anti Virus when the virus signatures get dated, Internet Explorer advises on pop-ups without third party software and Outlook Express will suppress photos until you authorise them. I am happy with the SP2

Ron Baker

Launceston Computer Group

SOFTWARE LIBRARY

Dated 1st Oct 2004

DISK 1000 - Your Library on Disk

Have you received your copy of Disk 1000? The disk holds a complete listing of programs available in our PC shareware library. This disk is free of charge to all new members.

DISK COPY PRICES - CLUB MEMBERS *$1.00 per disk*

Disk Prices - Box of 25 = $12.00 Members Only

CD Prices – Box of 10 = $10.00 Members Only

Julie Hjort ,Shareware Librarian

AVAILABILITY OF LIBRARY

The Shareware Library is available in-between meetings from the following person. Please telephone first to arrange a suitable time.

The library is also available at the venue - Studioworks most Wednesdays 9am to 3pm. Email: opencomputingtas@hotmail.com

LAUNCESTON

Julie Hjort Phone 6344 5686

Flat 2, 115 Penquite Road, Newstead

Email: jhjort@intas.net.au

Monthly Workshops

Graphics PSP7 – 20th Oct

Next class

Using Paint Shop Pro 7

Wednesday 20th Oct

1pm – 3.30pm

$6.00 fee - Numbers limited to 8 please register on noticeboard or call **OPEN** on 0413 698.610

Bring your own photos for a 'multiple skills' session

Northern Tas. Camera Club

Monthly meeting on Saturday, October 16.

Family History Online

Next Classes

Wednesday 13th Oct 1*pm–3.30pm &*

Tuesday 26th Oct 9*am–12pm*

$4.00 fee Numbers limited to 8 people

Please register on noticeboard

Microsoft Publisher

Next Class

Thursday 14th Oct - 3pm to 5pm

Please register on noticeboard – Fee $4.00

Class sizes limited.

Graphics – Level 1

This class will be held every second month and is aimed at those people who are new or know little about manipulating graphics.

Wednesday 25th Nov – 1 to 3.30pm

Please register on noticeboard

$6.00 Fee Includes programs and cost of printing tutorials.

Print Artist

Wednesday 27th Oct

1 – 3.30pm

VENUE TELEPHONE NUMBER

A Mobile Phone Number is now available to all those wishing to contact OPEN during working hours. The number is

0413 698 610

Please pay for private calls made *from* this phone

OPEN Session Times

All sessions are held at the venue at

Studioworks, 1 Pipeworks Rd, L'ton

Standard Sessions (All sessions $4.00)

Monday	1pm – 3pm	Next Step Beginners
Tuesday	9am – 12	PC & Mac
Tuesday	1pm – 3pm	Beginners
Wednesday	9am –12	Beginners
Wednesday	1pm - 3pm	2nd Step
Thursday	10 am – 12	PC & Mac
Thursday	1pm - 3pm	PC & Mac

Special October Sessions

Wednesday **6th Oct**	1pm on	**OPEN Meeting** & Tutor Tutorial
Wednesday **6th Oct**	7pm on	**LCG Monthly Meeting**
Wednesday **13th Oct**	1 – 3	**Family History**
Thursday **14th Oct**	3 – 5	**MS Publisher**
Wednesday **20th Oct**	1 – 3	**Graphics PSP7 Bring photos**
Tuesday **26th Oct**	9-12	**Family History**
Wednesday **27th Oct**	1-3	**Print Artist**

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What's Happening at OPEN

OPEN Monthly Meeting

Next Meeting 6th OCT 2004 at 1.00

SPECIAL EVENING SESSIONS IN CONJUNCTION WITH LAUNCESTON COMPUTER GROUP MEETINGS

Wednesday October 6 at 7 pm

Converting Vinyl Record Music to digital format using Cool Edit Pro.
Demonstration by Julie Hjort

Wednesday October 6 8.15 pm

Graphic design – a presentation and discussion session with guest speaker
Mark Greenhill

Waiting Lists

A waiting list for OPEN classes has been drawn up in the back of the daybook. Please enter the names and preferred sessions and contact numbers in the list.

Induction Packs

The new induction packs are now available.
These packs include all the information a new member requires to begin their course.

Induction Packs will be handed out to each new member once they have paid their membership

GRAPHICS CLASS

To be held every second month**.**

Graphics – Level 1

Entry level graphics for those people new to computers or new to the field of graphics.

Next Level 1 Class
Wednesday 25th Nov 2004
1pm – 3.30pm

Something New ???

If there is a certain computer-related topic that you would like to learn about please contact a member of the committee.

During September we conducted special sessions for CD-Burning using 'NERO' and converting LP record music to digital form with 'LP Recorder'.

Would you like a repeat performance of a topic ... or something different such as Microsoft PowerPoint presentations?

Let us know and we'll do our best to organise something for you

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Free Copy of Newsletter

Don't forget to submit your email address if you wish to receive the LCG/OPEN newsletter via email. If you have not yet received the newsletter via email tell your tutor.

Printing Costs

With the purchase of the new printer we now have photographic quality printing available to all members and students.
At this time the cost of printing will remain the same but may be reviewed in the future. **Current costs are:**

Photocopying	20c per page
Printing to Kyocera Printer	20c per page
Printing black & white text to Canon	20c per page
Printing text and graphics to Canon	40c per page
Printing cards or full page graphics	$1.00 per page

Special Monthly Meetings

Launceston Computer Group Inc.

Change in Meetings Format

From October 2004 onwards the LCG meeting on the **first Wednesday** of each month will be a **General Meeting** to cater for members' queries, and from time to time will feature special topics with guest speakers.

Wednesday 6th October

General Meeting 7.00pm – 10pm

A Friendly Reminder

Subscriptions for the 2004-2005 financial year are now due. If you haven't paid your 'sub' yet, please do so at your earliest opportunity.

Optical media foundry: Part 1

John Bohmer

So you've got this device called a 'burner' in your Mac but you're not sure how to use it. Seems like black magic when you see others use it and presto, they've made a CD-ROM: but what went on behind the scenes during its creation? Apple has supplied a piece of software called Disk Utility which has little documentation so many people find they're not game to experiment.

Well, I hope in these pages I can enlighten you as to Disk Utility's fundamental features.

Before we do that however I'd like to explain the technology that allows a CD-ROM to work at all. CD-ROMs are made of a plastic disc which has a reflective surface. This surface is smooth to the naked eye, however under a microscope a mass produced CD-ROM looks like a flat surface with many small pits. These pits are arranged in a spiral track extending from the inner hub to the outer edge. Now computers don't speak in English: at the core they only know the language of ones and zeros, binary code. It is these ones and zeros that are represented by the pits and the associated flat areas between them. Thus a spinning CD-ROM with a laser beam focussed on the spiral tracks will reflect the light beam when a flat area spins past and bends the beam when it comes across a pit. The end result is a reflected light beam which pulses just like an old style morse code signal, however the computer interprets this as ones and zeros. All we need to do is control the sequence of ones and zeros when the pits are created and presto: we've made our own CD-ROM.

In OS X 10.3 Apple provided us with a tool to do just this: Disk Utility. Yes, I know other proprietary applications like Roxio Toast are available to burn CD-ROMs, however as long as you are using an Apple supported optical drive a number of simple tasks can be achieved using this application without any further expense.

Let's start with creating a simple backup of your unique data. This is usually where most people start to learn about CD burning in the form of backing up important irreplaceable data. So where do you start? Well you need to get hold of some blank CD-R discs. I'd suggest you go out and get a reputable brand disc because you obviously believe the data is important so it ought to be saved to quality media that is unlikely to degrade for many years to come. When buying CD-R media you will find most shops have 700 MB CD-R discs available. As the name suggests it will hold almost 700 MB of data, 80 minutes of music or a combination of both. On the other hand DVDs can hold upward of 4.7 GB of data, assuming you have a DVD-R burner installed. The greater storage space on a DVD is achieved by squeezing those pits I previously mentioned closer together on the optical media surface. Don't get caught up with the CD-R or CD+R types of media. From my investigation most burning is done and supported on the –R media, it's cheaper and works. This applies to DVDs too. From the myriad of Web pages I've hunted through it seems the –R is the 'official' format that dates back to the start of optical media history. The +R format would seem to be a rival format that is only supported in some optical drives. Unless you have a specific reason, stick to –R media.

Having acquired the appropriate discs let's move on...

To make the data backup, Disk Utility needs you to:

- Select the Disk Utility application found in the Applications/Utilities folder
- Make an image file of the appropriate size on your hard disk (click on the "+NEW IMAGE" button and supply the details like I've used depending on how much data you want to back up.) Then click CREATE. Disc Utility will make the image file on your desktop
- Next you'll need to locate the image on your desktop (it's the mounted drive representing the .dmg file made on your desktop: • Drag into the mounted drive all the files you wish to commit to the CD-ROM
- Then finally burn these files onto the disc. Highlight the .dmg file on the left hand pane, then click the colourful Burn button. (When you complete this process, Disk Utility will take a few minutes to create your CD-ROM containing all the files you dragged into the mounted volume.

Congratulations on making your first CD-ROM.

In my example we've only burnt a 40 MB chunk of data, however as the feature 'leave disc appendable' was selected we can add more sessions to

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this same CD as we see fit. Each extra session will mount as a separate volume when the finished CD-ROM is used on your Mac.

So what about making backups of your Application or OS installer CD-ROMs?

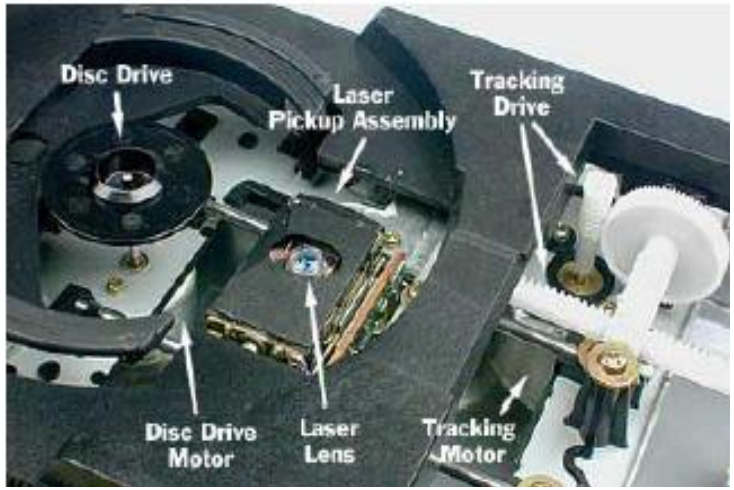
Well the method is not unlike what has been described above, however instead of creating the image file from scratch then placing all the data within it, this time we are going to insert the master CD-ROM we wish to duplicate into the drive. Wait for it to mount, then select the icon in the left hand pane representing the name of the

nal CD-ROM on your Mac hard drive. Making the duplicate CD-ROM is the same as burning the .dmg file in my previous example: highlight the .dmg file, click burn and insert a blank CD-R disc into the burner. Moments later you've made your backup.

What has been described so far are the two most commonly used tasks to do with CD-ROM burning. It is however possible to burn hybrid CD-ROMs that can be used on both Macintosh and Windoze computers. This requires Disk Utility to create a CD-ROM with Mac OS Extended formatting that is also ISO 9660 compliant: handy if you want to burn data to a CD-ROM for our 'not so fortunate computer cousins' to view. Early versions of OS X had an application called Disk Burner that could do this, however I've not yet been able to get Disk Utility in OS X 10.3 to achieve this as it seems to be a documented problem with later versions of OS X: see <kbase.info.apple.com/index.jsp?locale=en_USandsm=gsanddp=hp>, then type in the keywords 'Disk Utility hybrid'. The first article says it all.

It's at this time many Mac owners turn to Roxio Toast to create more sophisticated CD-ROM volumes. Although the Toast product is proprietary software, and costs, it does simplify the process greatly and adds more options to your CD-ROM burning endeavours.

From Apple Sauce September 2004



Disc or disk?

Opticals (CD-ROM, DVD) are discs, magnetic (hard or removable) are disks.

Army Life

Dear Mum & Dad,
I am well. Hope you are.
Tell my big brothers Doug and Phil that the Army is better than working on the farm - tell them to get into the Army quick before the jobs are all gone.
I was a bit slow in settling down at first, because you don't get outta bed until 6am. I like sleeping in now, but all you do before brekky is make ya bed and shine ya boots and clean ya uniform. No cows to milk, no calves to feed, no feed to stack---nothing. Men must shave, but its not so bad, coz there's hot water and a light to see what ya doing.
Breakfast has cereal, fruit and eggs but there's no kangaroo steaks or possum stew. You don't get fed again until noon, and by that time all the city boys are buggered because we've been on a 'route march' - just like walking to the windmill in the back paddock.
This will kill Doug and Phil with laughter. I keep getting medals for shooting - dunno why. The bullseye is as big as a bloody possum's head and it doesn't move and its not firing back at ya like the Johnson's did when our bull got their cow pregnant before the Ekka.
All youse gotta do s make yourself comfortable and hit the target - piece of piss. You don't even load your own cartridges - they comes in boxes and ya don't have to steady yourself against the rollbar of the roo shooting truck when you reload.
Then ya gotta wrestle with the city boys and I gotta be real careful coz they break easy - it's not like fighting with Doug and Phil and Jack and Boori and Steve all at once like we do.
Turns out I'm not a bad boxer either and it looks like I'm the best the platoon's got, and I've only been beaten by this guy from 5RAR - he's 6 foot 8 and 13 stone and I'm 5 foot six and seven stone, but I fought to the end.
I can't complain about the Army - tell the boys to get in quick before word gets around how good it is.
Your loving daughter, Jill

---------- Computers are Like Men...

In order to get their attention, you have to turn them on.

They are supposed to help you solve problems, but half the time they are the problem.

They have a lot of data but are still clueless.

As soon as you commit to one, you realize that, if you had waited a little longer you could have had a better model.

They hear what you say, but not what you mean.

---------- Computers are Like Women...

No one but the Creator understands their internal logic.

The native language they use to communicate with other computers is incomprehensible to everyone else.

Even your smallest mistakes are stored in long-term memory for later retrieval.

As soon as you make a commitment to one, you find yourself spending half your pay check on accessories for it.

You do the same thing for years, and suddenly it's wrong

From Newbie Club Newsletter 28th August 2004

Newbie Club Tutorials

Tutorial; "The Many Flavours Of Email"

Email comes in many different flavours ...

--------Plain text newsletter

Refers to emails in ASCII format. Plain text does not include text formatting code. In other words, it's an 'ordinary' plain newsletter!

------- HTML newsletter.

A newsletter sent in Hyper Text Markup Language. This differs from a plain text newsletter because it allows list owners to send media-rich publications that can include graphics along with text.

Text newsletters consist of ASCII characters only. Since some subscribers' email clients cannot view HTML or subscribers prefer not to receive it, an HTML newsletter is generally offered as an option in addition to a standard text newsletter.

------- ASCII

An acronym for "American Standard Code for Information Interchange", used to assign English characters to numbers.

Yeah right! See above.

------- Rich media ...

Is text content used in sending certain types of email. It also includes commands for page layout, graphics, audio, video and animation.

Rich media requires more bandwidth and storage space than ordinary text.

Are you more enlightened - or even more confused? Kwik Tips ...

"Bounces and Mouses"

Hard Bounce is when an email message you have sent is returned to you because it couldn't be delivered to the recipient. It often comes back to you with a message reading "user unknown" or "host unknown".

Soft Bounce is when an email gets to the recipient because it's been manually forwarded by a network administrator in charge of redirecting all misguided email on the recipient's domain.

Both types of Bounce are otherwise known in the newsletter publishing world as PAB - A pain in the Butt.

Tutorial ... "Understanding Hosting"

You already know about web pages. You use them all the time. And you probably know that those web pages have to live someplace.

They live on computer hard drives, just like the one you have at home or in your office.

You're familiar with the hosting concept, even if you don't know you are.

A host is someone or something that gives up some space for others. Or provides a home for someone. You could be a hosting family for International students.

A web host is the same thing. It's a computer that gives up hard drive space for web pages. It allows them to take up residence, and sit there until your browser requests they be displayed for you to see.

All kinds of rules and regulations surround the host, and it has to meet them without exception.

Hosting companies are simply one or 100 person organizations that have computers called "servers" set aside for the purpose of hosting web sites. And all companies pay for hosting.

Even "free hosting" costs money. Companies that offer that kind of service make it up elsewhere. Through advertising dollars, special deals with larger companies, etc.

Tutorial; ---- "Kwik Re-Boot"

You know the times when you need to close down your PC and restart it again immediately?

Like when you get an Error Message, or you're running short of memory?

Instead of going to the normal procedure for shutting down, and becoming hypnotized by all that white font on a black screen, supposedly informing you of what's happening.

Try this instead ...

Start Shut Down Restart

Hold down 'Shift' key (left hand side of your keyboard with a vertical arrow on it)

Click OK while holding down the 'Shift' key.

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No more hieroglyphics buzzing around your screen.
It's not much use, but it's less intimidating. And it helps me fill this newsletter:-)
Tutorial; ---- "404 Error - Page Not Available"
==========
How many times have you clicked a link to visit a Website, and all that came up onto your screen was a page saying the requested page was not available. Or just simply '404 error'?
Many people assume that the page does not exist. Someone's made a typo. Some fool has messed up!
Well that's not always the case.
I know you're not interested in the techie reasons for this happening, but sometimes if you click 'Refresh', the page will load for you.
You'd be surprised at how often you'll be successful.
If that doesn't work, try returning later and see if it loads.
And sometimes you may find that a page is taking aaaaages to load. The bar in your taskbar is crawling across at a snail's pace, and you feel your eyes beginning to grow heavy and your chin slowly drops closer to your chest.
It is NOT recommended that you squirt lubricating oil into the back of your PC. However, the burning smell *will* keep you awake whilst you're staring at a black screen.
It's better to try clicking 'Stop' and refresh the page. Sometimes the page loads almost instantaneously.
Why? Coz it's technology, that's why:-)
Tutorial Part 1 ... "Error Messages And What They Mean"
Some common Windows error messages are less intimidating when you have an idea of what the often cryptic message is referring to.
Error messages are rarely if ever displayed because of a mistake you made. So the best thing to do is read the following tips, maintain your composure, and take control of the computer!
Let's deal with four of the most common messages right now.

1. Invalid Page Fault. This occurs when the operating system (Windows) fails to actually access information (data) that was requested by one of your programs. It's as if the butler simply went to sleep on the job.
Remedy: Close the offending application that caused the error. Fire the butler. But only temporarily.
2. Fatal Exception Error. This happens when a program or the system itself tries to work with sickly data, such as a corrupt file. Files get corrupted if all the ducks aren't lined up just so. Everything has to be absolutely precise, or wham! Fatal Exception. Nobody was hurt, were they? I hope not! Remedy: Close the offending application. Sometimes it's Windows. So you have to reboot.
3. General Protection Fault (GPF). Your computer has to have enough resources to support everything going on inside. If it runs low, or resources leak into space, you may see a GPF. This may also happen if two applications try to use the same memory location, like two cars attempting the same parking stall. Fault! Remedy: Restart your computer. The memory is cleared. And you continue on down the road.
4. Runtime Error. These occur while applications are running. The only way to cure them is to restart the application.
Tutorial Part 2 ... "Error Messages And What They Mean"
Tutorial Part 1 was about the most common types of error message you'll encounter. Now here's a few error messages you may see, along with what they mean. If you encounter a message you really want to figure out, consult the Microsoft Knowledge Base (http://search.support.microsoft.com) for solutions.
"The device has been disabled in the hardware. In order to use this device, you must re-enable the hardware. See your hardware documentation for details."
The documentation will only tell you how the device should be set up. It won't help you any with the error message.
This Windows error message is caused by hardware components that malfunction or may be configured incorrectly. Check all connections, try

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Ultra secret

Peter Carter

As we have seen, the 1930s were a time of progress in mathematics, electronics, and other fields: Gödel, Church and Turing, and Stibitz come to mind. The 1940s were similarly a time of progress, but stimulated by the exigencies of war. In the US, Aiken was working on the Harvard Mark 1, while in Germany Zuse was using his machines for aircraft calculations. But two other projects went ahead in great secrecy, not to be revealed until after the war, and in the case of one of them, not for thirty years afterwards.

Both of the used vacuum tubes, valves, even though detractors considered them unreliable. True, they were fragile, but by careful design, could be sufficiently reliable.

ENIAC

ENIAC, the Electronic Numerator, Integrator, Analyser and Computer, was designed to calculate tables: artillery tables. Calculating methods of the time could not cope with the demands.

John Mauchly had trained as a physicist, and in the mid 1930s had had to abandon a project because the amount of data was simply too great. The experience set Mauchly thinking about machines to solve mathematical problems. In 1941 he visited Atanasoff and inspected the ABC. Ideas began to fall into place, and in 1942 he wrote a memo 'The Use of High Speed Vacuum Tube Devices for Calculating'.

That memo was to lead to Mauchly, with engineer John Presper Eckert, leading a team of some 50 people working in strict secrecy to develop an electronic calculator for the University of Pennsylvania and the Ballistic Research Laboratories (BRL).

They decided to use decimal arithmetic, and that the machine would be built up of separate units: function tables, accumulators, and so on. (In the picture on the next page, an operator is seen entering numbers on one of the function tables.) Although the machine's original purpose was artillery tables, it **was later used in the design of wind tunnels, cosmic ray study, and other research.**

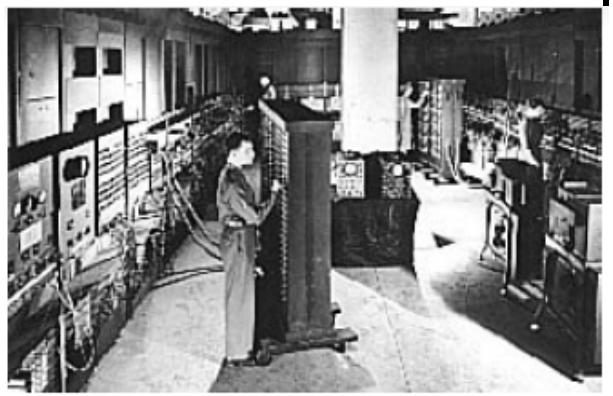
All told, ENIAC had 17 468 tubes and 1 500 relays, and used 174 kilowatts of power.

In September 1944 John von Neumann became a consultant to the project. We shall see more of von Neumann in next month's article.

ENIAC was programmed by being almost literally rewired for each problem, with patch cords and switch settings in the function tables. That was clearly cumbersome, and Eckert and Mauchly began thinking of bigger and better machines in which the program could be stored in the computer along with the data.

The machine was completed in November 1945, too late for the war. At von Neumann's suggestion, it was used to test a theoretical model of he H bomb, revealing some flaws in the design of the weapon.

ENIAC was revealed to the world at a news conference in February 1946, and made an interesting comparison with Aiken's Mark 1, being a thousand times faster. Later that year it was moved to BRL, where it remained in use until October 1955. Eckert, Mauchly and the others moved on to faster, more powerful, and more compact machines.



Thirty tonnes of ENIAC at the University of Pennsylvania

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Colossus

The German military used two mechanical means of encrypting its communications. The first was Enigma, broken by the Poles, and then read regularly at Bletchley Park through the work of Turing and his colleagues. The other was Geheimschreiber, a modified teleprinter.

Geheimschreiber machines had ten rotors which modified the fivebit Murray code used by teleprinters. The sender machine would transmit encrypted text, and the receiver, with its rotors set to the same positions, would decrypt it.

At first, the British could decrypt some of the 'Fish', as it was called, traffic only by laborious hand methods devised by Bill Tutte. In late 1942 Max Newman joined Bletchley Park under Major Tester, and with Turing and others as consultants, began devising machines to do the work. Their first was 'Heath Robinson', a relay based machine. It worked, but not well. Something better was needed. In January 1943 two Post Office engineers were called in, TH Flowers and SW Broadhurst. They were specialists in high speed switching, and Flowers suggested a new concept: the use of vacuum tubes. Newman began drawing up specifications and Flowers started on the engineering design. There were to be 1 500 valves: more than in any other previous device.

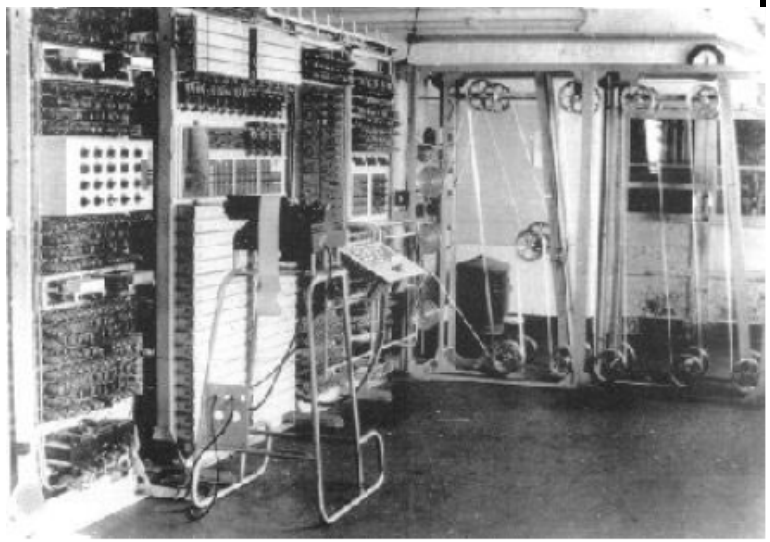
Colossus was assembled at the GPO station at Dollis Hill then moved to Bletchley Park in December 1943. The message to be decrypted was punched on to paper tape, which was then read by photoelectric circuits at 5 000 characters per second. The ten rotors of Geheimschreiber were simulated by ten 'rings' of valves, generating codes to be added to the message code in an attempt to find the plain text, eventually output to an electric typewriter.

By the beginning of June, just before DDay, an improved Colossus Mark II was installed. It had 2 500 valves, and with five tape readers could scan at 25 000 characters per second. It also had circuits for IF..THEN logic: the first machine with this ability.

Eventually there were ten Colossi at work. Their influence on the outcome of the war remains secret, part of Ultra, but it is known that they revealed that Hitler was taken in by the deceptions prior to DDay.

At the end of the war eight of the machines were dismantled immediately, with the other two remaining at CGHQ until about 1960 when they too were dismantled. The drawings were destroyed. The public was not to know of the machines until the mid1970s.

Was Colossus a computer as we understand it? Yes, in the sense that it performed algorithms, logical processes. But it was not a general purpose machine, as modern computers are. However Colossus was the first real electronic computer.



Colossus. Running over the wheels in the background is a message tape. Output is on the typewriter on the stand. Behind the electronics rack is another, of similar size.

The Colossus replica

In recent years a replica has been built, based on what information remained and recollections of people involved. Read about it at <www.codesandciphers.org.uk/lorenz/rebuild.htm>.

Other pages on the site describe the original and its workings.

Further reading

ENIAC: <www.library.upenn.edu/exhibits/rbm/mauchly/jwmintro.html>

Colossus: <www.codesandciphers.org.uk/lorenz/>

A brief history of computing...

ACE, Manchester Mark 1, EDSAC, EDVAC...

Stored programs

Peter Carter

When the war ended there were teams on both sides of the Atlantic eager to build better computers. All had one particular aim: to enable their machines to store their programs within themselves.

The machines built so far had been programmable, but had either to be virtually rewired (ENIAC), or read their programs a step at a time from cards or tape (ABC, Harvard Mark 1). Even as they built ENIAC, Eckert and Mauchly realised that something better would be needed, and that programs should be stored with their data in the machine. They proposed a follow-on machine, EDVAC, Electronic Discrete Variable Computer.

They were not alone in their thinking. In Germany, Zuse had come to the same conclusion, but he was cut off from the rest of the world. In mid-1944, almost by accident, John von Neumann became a consultant to the EDVAC team. A brilliant mathematician, von Neumann had been born in Hungary, and was professor at the IAS in Princeton. He was also a consultant at Los Alamos on the Manhattan Project to develop the first nuclear weapons.

With input from the others, von Neumann drafted a report on the project, outlining the logical design of the machine. References, names, and other details were still to be added when he posted it to Herman Goldstine, another member of the team. Goldstine put a cover on the document, with von Neumann's name as the sole author, and published it as 'First Draft of a Report on the EDVAC'. Years of misunderstanding followed.

In 1946 a conference was held at the Moore School, home of ENIAC. Maurice Wilkes of Cambridge University was one attendee from the UK. Another British visitor to ENIAC was JR Womersley from the UK National Physical Laboratory, who took home a copy of the 'Report on EDVAC'. Among those who read it was Turing, who then wrote a paper of his own, outlining plans for ACE, Automatic Computing Engine.

ACE

At NRL under Womersley Turing set to work to design and build ACE, and prepare programs for it. Eventually, however, Turing became so frustrated by the bureaucracy that he left NRL for Manchester University. ACE became Pilot ACE, a cut-down machine, that first ran in 1950.

Manchester Mark 1

Manchester University's project had been set up by Max Newman, the first reader of Turing's 'Computable Numbers' paper, and one of the people behind Colossus.

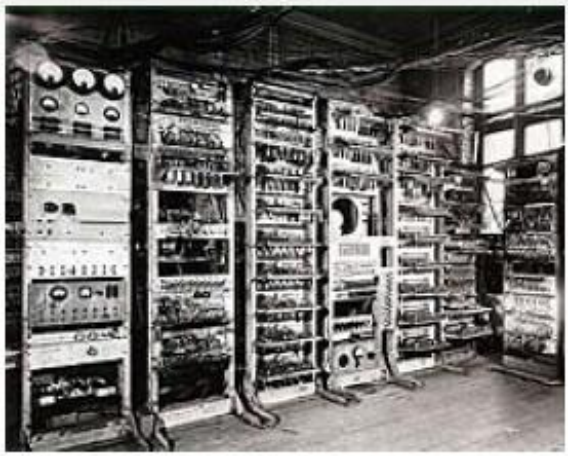
One of the problems all designers of early computers faced was that of effective short-term memory systems. Mark 1's chief engineer, Fred Williams, with Tom Kilburn, devised a way of using cathode-ray tubes to store binary numbers, building a preliminary machine, Baby, to test their ideas. Williams-Kilburn tubes became common in early computers.

Mark 1 ran its first program on 21 June 1948, becoming the first fully-electronic stored-program computer.

The British government commissioned Ferranti to build a commercial version, and the first Ferranti Mark 1 was installed at Manchester in February 1951. Eight of the machines were sold.

EDSAC

At Cambridge University Maurice Wilkes and his colleagues built EDSAC, Electronic Delay Storage Automatic Computer. Based on EDVAC ideas, it was completed in 1949, the first stored-program machine with any serious power.


Manchester Mark 1

Its working memory was a set of mercury delay tubes, a device devised by Eckert. Bits were stored as sound pulses, generated and read by piezo crystals. Slower and more expensive than Williams-Kilburn tubes, they could hold more information and were very reliable.

EDVAC

Eckert and Mauchly found themselves in the midst of an argument over patent rights. Eckert and Mauchly believed that the rights should be theirs, the University of Pennsylvania considered that it should hold them, while the military, which had paid the bills, wanted the rights without further payment. Due partly to a claim by von Neumann, the concept of the stored-program computer came to be in the public domain. Anyone could use the ideas, and many people did.


EDSAC

Eckert and Mauchly resigned in March 1946, and EDVAC was not finished until 1952.

ILLIAC

John von Neumann revised some of his ideas and began work on a machine in 1946, the Illinois Automatic Computer, ILLIAC. It was completed in 1952, and at least eight similar machines were based on it, including JOHNNIAC, MANIAC, and SILLIAC at Sydney University.

In the picture at the beginning of this article, the cylindrical objects at the bottom are covers over the Williams tubes, the machine's working memory.

UNIVAC

Now with their own company, Eckert and Mauchly started on UNIVAC, the Universal Automatic Computer. Funding plagued them from the start, as well as opposition from elsewhere. In an attempt to gain funds from industry they contracted to build a small computer (BINAC) for the Northrop Aircraft Company. BINAC was hardly a success.

Eventually they did gain some funding, but in 1950 UNIVAC was bought by Remington Rand, and the machine made a name for itself by succesfully predicting the result of the 1952 presidential election. All told, 46 UNIVACs were sold.

Others

Other academic groups and firms started work as well, for users in science, engineering and business. The computing age had begun.

IBM built the Selective Sequence Electronic Calculator (SSEC) in 1946 – 47. Like its predecessor, the Harvard Mark 1, it contained relays, some 21 400 of them, together with 12 500 vacuum tubes. Installed in IBM's Manhattan office, it was visible to passers-by in the street.

It made an impression, but it was a dead end.

In the UK, the Lyons Teashop Company saw the value of computers in business, and began work on LEO, based on ACE.

Not everyone was enthusiastic. Howard Aiken wrote 'There will never be enough work for more than one or two of these computers...'

From Apple Sauce October 2004

(Continued from page 9)

reinstalling the device, or try it in another computer. If it still gives the same message, it's probably broken.

"Error starting program. There is not enough memory. Quit some programs and try again." There are three possible answers:

a. Your hard drive is too full and can't accommodate more data. Since Windows uses space on your hard drive as virtual memory (in addition to RAM) this could be the cause. Be sure you have at least 10% of your drive free. On a 10 gigabyte hard drive, that would be 100 megabytes minimum.

b. The Recycle Bin may have too much space reserved. Try decreasing this amount to a lower percentage. The default is 10%.

c. You may need to upgrade your RAM - Random Access Memory.

4. "Cannot find a device file that may be needed to run Windows or a Windows application." Grab the phone and call for help, because this is dial-up networking problem. Reinstall dial-up networking. How?

Use the Add/Remove programs utility in the Control Panel. Add the dial-up networking program. It's not as easy as sounds, so I advise you to try and find a techie-type who can help you out if this is your problem.

5. "This program has performed an illegal operation and will be shut down."

This message is designed to strike terror into the hearts of seasoned techies.

There are many reasons for this, but most of the time the problem does not re-occur.

If it does then seek help from your techie. If it occurs every time you use a particular program or piece of software then there is a conflict somewhere.

Unfortunately, as we all know, sometime Windows has a mind of its own and we just cannot determine why a particular event happens.

As I frequently say ... 'Stuff Happens'.

Error messages are there to guide you into the light. After passing through the valley of the shadow of possible doom, you'll enter a new land of understanding. Certain events trigger error messages - like starting your computer, or trying to run two applications that fight each other for memory locations (known as conflicting applications).

You may never operate without an error message, but at least you'll start learning to decipher them, and may discover they aren't so bad after all. Especially if you're able to fix the cause!

Kwik Tip ... "How To Experiment without Breaking Things"

If you've had your PC for any length of time you'll already know this. But this Newsletter is for Green as well as Not-So-Newbies so here goes ...

If you want to did around and experiment with various functions on your PC do so. And if there is ANY action you do NOT want to continue with you just click on ' Cancel"

Yes you can cancel any action you don't want to actually carry out. Just click the Cancel button, and no changes to any setting in your computer will be made.

So go exploring, clicking anything and everything, because every dialog box has a cancel button. Use it whenever you change your mind, or simply aren't sure if you should proceed with an action.

Use context sensitive help.

If you're wondering about something you see on the screen, and you notice a little question mark or a Help button on a particular dialog box, try clicking. You may receive context sensitive help.

Smart help programs will deliver information based on the area of the program you are using.

The F1 key will provide help no matter where you are. And it's always related to the program you're using

ACS dismisses ADSL as temporary broadband measure:

ZDNet Australia: News: Communications
Staff writers, ZDNet Australia
September 30, 2004

The Australian Computer Society (ACS) has released its broadband policy paper, encouraging whomever wins government to develop a strategy that will deliver "true broadband services" to Australians.

The ACS stated that the political parties have compromised strategy for broadband in Australia by diverting the attention towards ADSL, which the ACS believes is nothing more than an "interim solution". "ADSL runs at 256 to 1024KB MB/s; the ACS defines true broadband as greater than 10Mb/s," the ACS said in a statement.

The ACS broadband policy recommends that the federal government prioritise the implementation of "an integrated forward-thinking strategy that will provide competitive and affordable broadband services to all Australians".

The ACS said the government should focus on rural and remote areas and that the significant changes in the technology should occur during the next 10 to 15 years.

The ACS is also calling for the government to adopt initiatives to increase competition in the telecommunications infrastructure market by encouraging the roll out of broadband alternatives such as wireless services.

"We know from US experience that one of the only ways to get competition in broadband, to traditional telecoms company is through media companies."

The ACS states that the government adopt a strategy that will see the roll out of "true broadband infrastructure" (10Mb/s plus) to as many households as possible in Australia not later than 2015.

"Broadband must be available to all Australians, by the end of the next political term (2007) at rates commensurate with what is available in metropolitan areas, regardless of location and without download quotas. We are calling for all stakeholders to work together to evaluate a maximum dollar cost of broadband, which some industry commentators are claiming is approximately AU$50 per month."

ACS national president, Edward Mandla lauded the Labor party for its "fresh" initiatives to try to stimulate telecommunications within Australia. "We have been doing and saying the same things over and over for years and expect different results. We therefore commend the Labor party for coming out with fresh thinking and specific initiatives to try to stimulate telecommunications within Australia."

"Investors will only participate in the telecommunications market if there is active competition, which is clearly recognised in the Labor party policy. If we had active competition, businesses such as Comindico -- one of Australia's few junior telecommunications companies -- may not have been put into receivership," Mandla said.

He added that ADSL is "not a medium to long-term solution" and that to pursue such a strategy that won't be relevant in 10 years time is just "money down the drain". "We are calling for accountability. Australia can't hide behind growing broadband numbers when we slid down from 19 to 23 in the Organisations for Economic Cooperation and Development rankings of broadband penetration," Mandla said.

THE 'STUDENT AND TEACHER EDITION' OPPORTUNITY

One of the cute marketing tricks of recent years has been Microsoft's bundling of some Office components into a 'Student and Teacher' edition. We've mentioned this in past issues of WOW but still we get a lot of questions about this Office option, so in this issue we'll try to explain what it is and why it's a good choice and great value for many people.

The Student and Teacher edition of Office 2003 for Windows is available in most retail stores and from reputable online stores. It contains the standard versions of Word 2003, Excel 2003, Powerpoint 2003 and Outlook 2003 - which is the same as the 'Standard Edition' of Office 2003. It's a similar story with Office 2004 for the Macintosh.

The difference isn't the software - it's the license and price.

This issue has the official line and also what's happening in stores throughout the world - what you do is up to you.

PRICING Windows: the Standard edition of Office 2003 retails for US $399 while the upgrade pack is $239. The same software in the Student and Teacher box is only US$149.

Mac: the Standard edition of Office 2004 for the Mac retails for $399 while the upgrade pack for previous Office users is $239. The Student and Teacher edition is only $149.

Throughout we'll give US retail prices - though usually you can obtain a cheaper price, especially online. Similar price differences apply in other countries that have Student and Teacher editions including the UK and Australia. Check you local Microsoft web site to see if this special bundle is available in your location.

LICENSE The Student and Teacher edition is for "non-commercial (non-revenue generating) use" and you can install it on up to three computers in a household.

That is different from the standard license that allows installation on one computer only plus a "second, portable device for the exclusive use of the primary user". In other words the standard Office license is for use by one person only on a desktop or portable computer.

We believe that the Student and Teacher Edition does NOT qualify for future upgrades - though we can't see anything that explicitly says that in the current Microsoft documentation. WHO CAN OFFICIALLY BUY IT? According to the end user license the user has to be a "Qualified Educational User" or in the household of a "Qualified Educational User" - strangely that term isn't defined in the EULA directly. Instead it refers to "Qualified Educational-User Criteria' set forth on the product packaging for this Software at the time of installation."

And on the box that we have it says:

"Qualifying Criteria - Full or part-time student - Home schooled student - Full or part-time faculty or staff of an accredited educational institution - Member of a household meeting any of the above criteria Noncommerical use only "

There's more on the rules on the Microsoft web site http://www.microsoft.com/office/editions/prodinfo/students/doyouqualify.mspx .

Interestingly that site says you are eligible to use the product after the qualified educational user no longer qualifies. In other words you have to be an educational user at the time of purchase but your license doesn't expire if you stop your formal education.

WHO REALLY BUYS IT In the last section we tell you the legal details of the Student and Teacher license - but here's what really happens ... Anyone who wants it, buys it.

That's right - there's no check made that there is a 'qualified educational user' in the household.

In retail stores the salesperson may ask if you're a student, but that's only because they are on commission and will want to sell you the more expensive version of Office if they can. You can grab the Student and Teacher Edition off the shelf and take it to the cashier without any questions asked or purchase it online also with no questions asked.

The Product Activation system can control the installation on more than three computers - but there's no direct way to ensure that Office is being installed on computers in a single household.

WHY IS IT AVAILABLE? According to Microsoft (as recently quoted in Wired magazine) - 'we trust our customers' but in practice the company

must know that people are buying the package and installing it when not qualified.
The Student and Teacher Edition is often the best selling version of Office and that doesn't make sense if all the purchasers are truly qualified.
Microsoft is turning a blind eye because it suits them.
There's various theories as to why Microsoft released the Student and Teacher edition - the truth is probably a mixture of them.
The Student and Teacher edition lets Microsoft offer Office at a lower price and thus fend off the various small rivals - the idea is to stop any of these Office wannabes from getting a foothold in the market by having a lower price. Sure, Office rivals cost less, but at US$150 Microsoft figures many people will pay a slightly higher price for the 'real' Office.
So why not just cut the price of Office across the board? If Microsoft dropped the price of Office Standard then all the other bundles would have to become cheaper. Worse still the volume license prices would drop.
Worse again, some large special license users (such as governments) often have a deal where they are charged the guaranteed lowest price - if a supplier were to sell at a lower price then the supplier has to refund the difference.
Microsoft Office is a great revenue stream for the company, and it wants to protect the overwhelming market share of Office and the income that it provides from volume licenses.
Student and Teacher Edition lets Microsoft effectively sell Office to retail users at a lower price while, with a straight face, purporting that Office retails to the general public for $250 more when dealing with their larger volume customers.
While that's legally true, the fact that Student and Teacher Edition is sold so widely and openly in general retail channels. There's no real check of qualifications means in practice Office is being sold at a much lower price to the general public
WHAT STUDENT AND TEACHER EDITION IS NOT. The Student and Teacher edition of Microsoft Office 2004 is:

- Not the academic edition. That's a separate and more closely monitored license arrangements for educational institutions. Usually only students can purchase academic license through approved vendors, generally connected to the college / university.
- See http://www.microsoft.com/education/HowToBuy.aspx
- Not different software. The license to use is different but the software you run is exactly the same as other bundles of Office.
- *From Woody's Office Watch # 9.17*

This is for older people.

Younger people try it at their own risk. This is working well for me. For those of us getting along in years, here is a little secret for building your arm and shoulder muscles.

Three days a week - begin by standing straight, with a 2 kg. potato sack in each hand. Extend your arms straight out from your sides and hold them there as long as you can - try to reach a full minute. Relax. After a few weeks, move up to 5 kg potato sacks, and then 10 kg potato sacks, and eventually try to get to where you can lift a 20 kg potato sack in each hand and hold your arms straight out for more than a full minute.

After you feel confident at that level, start putting a couple of potatoes in the sacks.

Enjoy your increased vigour!