FROBNICATE
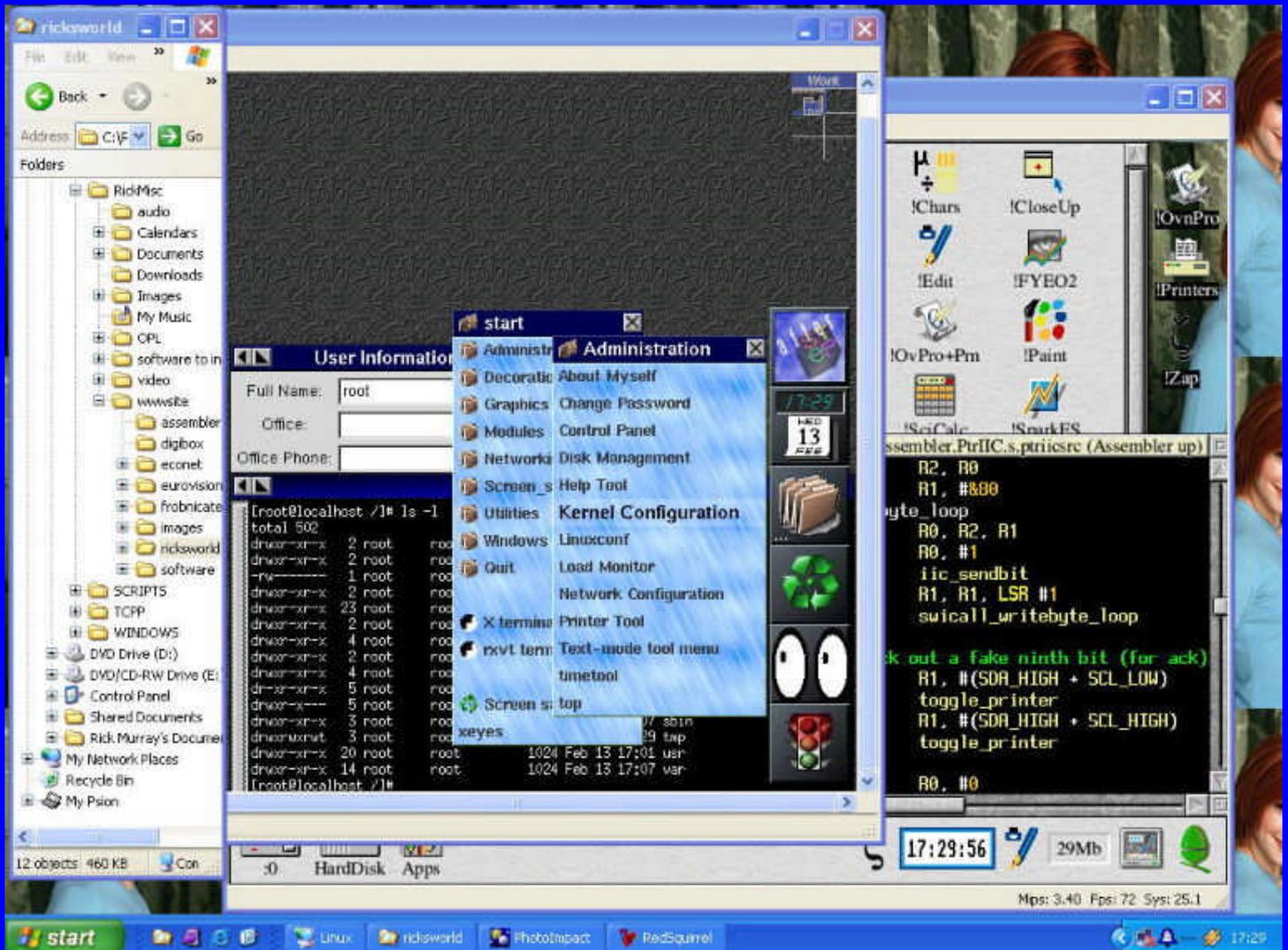
Last one out, please switch off the light.

It's XP... erm... Linux... erm... RISC OS... erm... *I'm confused*!
...dot com?

- Taking to the air
- The MPman MP-FUB34 music player
- An argument for Open Source

Contains sustained moderate geekery.
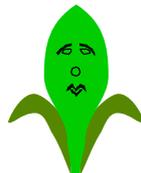
Index:

(Dandelion day)

Credits:

Designed, written, and created by Richard Murray.
"Mom's Page" written by Stephanie-Jane Murray.

Images that are not my own have attribution.

Our URL:

http://www.heyrick.co.uk/frobnicate/

)

A Hissing Spinach production
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Keep the home fires *burning*

In recent issues I have covered the "hot topic" that is Global Warming. To expand upon this, I wish to ask you to think about a few things.

Let the rip-off begin!

Firstly, I think the greatest bit of evidence possible is that political parties almost across the spectrum are falling over themselves to support the ecological agenda. I don't know if they see it as "being trendy" or as a ready source of tax cash, but I would think that such widespread support *from politicians* should ring alarm bells in anybody's head.

Furthermore, in the UK, the planned expansion of *Heathrow* has been given the green light. In one signed document the government has negated *all* the efforts with respect to householders changing their light bulbs to energy efficient ones. In fact the creation and later disposal of these mini-fluorescent lamps are possibly even *worse* for the environment than standard bulbs – not least because fluorescent bulbs have some nasty stuff inside, such as *mercury*, which has been removed from batteries in recent years only to turn up in supposedly "Eco" lightbulbs. If we can pull a conspiracy from this factoid (in other words, look beyond the 'green' packaging and figure out what's going down), I would be somewhat inclined to question if this has anything at all to do with the environment, or has the continued availability of "cool gadgets" over the last decade or so has placed quite a toll on the electrical distribution systems, what with all these "digital" receivers, telly/satellite/radio, cheap'n'cheerful computers, Wee, no..Pee, no... *Wii* devices and those mind-blowing billion-inch don't-sit-too-close-or-you'll-see-every-pixel *HD Ready* televisions.

There isn't enough cash to pay the company directors *and* implement a radical overhaul of the distribution network. So the *quick fix* is to blag everybody into believing that low power light bulbs are friendly to the world. Presently, twenty million 60W bulbs (=1 200MW) will become twenty million 17W bulbs (=340MW). Quite a difference.

We can take this a step further. Everything on sale that is in any way electrical has an "EcoTax". This is quoted along with the price; and you can tell reputable chains because the big price *includes* this tax. It varies widely depending on what you buy. A kid's radio controlled car – €0,20. A Meccano set (takes batteries) – €0,01! A television (any size) – €1,00 while a portable DVD player in a *Hello Kitty* shade of pink is only €0,16. And MP3 player (any) is €0,10 while a portable PSP games machine is €0,04. A *Nintendo DS Lite* is even cheaper, requiring an Eco Participation of only €0,03, while the Pee<cough>*Wii* will set you back €0,16, the same as an MP3 player. Source: SUPERU "Tout un monde de jouets" publicity, 12/07. I quote all this not to fill a couple of inches of space, but to demonstrate some of the bizarreness of the amounts quoted. Now let's say ten thousand Frenchies decide to buy an MP3 player (plain, with video, 256Mb, 2Gb...doesn't matter). That's a cool €1 600 raised in the name of saving the planet. This figure will grow exponentially as we chuck in all sorts of other things – computers, TVs, mobiles, food processors and washing machines. What is this money used for? Where does it go? Does it actually *help*?

The latest nugget of advice from Baroness Young is that insurers should refuse to insure houses built on flood plains. Gee, I wonder if she has shares in Lloyd's? You see, there is a difference between the dimwit that builds the house there, and the person that lives in that house. It is possible that the builder threw up some houses in order that they see a speedy return on their investment. If it is a known flood area, there may be people who will "take the risk" as it is either that or live in rented places given the state of the British housing market. And so Baroness Young thinks it is a good idea to refuse to insure such properties. What a load of...... The sane idea, and the only one that makes sense, is to stamp on such potential problems at the planning stage. *Don't even get the houses built*. No house, no tenant, no insurance liability, no problem.

And this cleverly links to the fact that flooding is going to become more of a problem in the future.

The future

Are the EU, all these scientists, and everybody wrong? No, I don't think so. Something *is* happening with our planet. And **it *will* get worse.**

What you see above might look like a cross-section of a boat. It is what I have always known as a "bath curve", though nobody seems to understand me when I say this so perhaps it has a more common name?

Concentrate on the *right*. Specifically where the curvy line intersects the axis line. This is *now*. Planet Earth, 2008. Captain's Log, star date 2 454 102.

Perhaps you have already sussed the algorithm. It is simple. With some trickery to get my little organiser to draw it in the right sort of place, the calculation is:

```
y = LOG(x)
```

The important thing with *logarithms* is that they are not linear (duh!). Each step represents twice the value of the previous step. This leads to situations where "stuff seems less reliable as it gets older". Look at the diagram. If you can represent a "failure rate" mathematically, it would look like that diagram. Older stuff has more wear, more degradation, and this is more likely to fail. The older it gets, the *more* likely it is to fail. It's like that for harddiscs and humans alike.

And it is also like that for planet Earth. What we are seeing in the change in weather patterns is not a direct cause and effect of effect of using wasteful lightbulbs and badly cooked BBQs, but rather it is because we have reached the point where changes are starting to be noticed – even by us dimwit humans. Not just the "one off" wild year, but sustained alterations to the climate. And, as the chart predicts, it is a situation that won't ameliorate. If anything, flood scenes will become more and more prevalent. It may be a decade before we see large parts of *Somerset* underwater again. But it will happen. Soon, in climatic terms.

So we will be faced with an ever-increasing population with the prospect of less place to stick all these people. Oh, and some freaky weather just to make life more interesting.

Who's to blame?

Not us! While it is quite logical to say that mankind's raping of the rain forest and desertification of green land will have a climatic effect, not to mention the Chinese belching fossil fuels and farting cows across Europe, the fact of the matter is that carbon dioxide is ***not*** a major constituent of the atmosphere – it represents a mere 0.03% of it (source: Encarta World Encyclopedia 2000).

What is a larger part, and what has a much greater impact on the global warming state, is *water vapour.* Something that nature can routinely create on a scale that we mere humans cannot hope to emulate. But, as a recent incident involving a teddy bear proves, we humans are too stuck on our own self-importance. Many of us need the psycho-emotional crutch of a supreme being to allow our lives to have meaning. Some people are so caught up in this that, by blind faith alone, they give their lives to the cause; be it in life as a nun or such, or in death as a suicide bomber. In each case, their life, their entire measure of being, was devoted to their belief. And it is this same need to be important that makes us think that we can all fart together and the planet will warm up a degree.

The depressing reality is that we are an accidental quirk of the mechanism of life inhabiting some tiny lump of rock in a fish bowl with a gazillion other lumps of rock. In the scale of a universe, you can't see a human being. You can't see Earth. You can't see the Solar System. You probably couldn't even pick our galaxy out of all the others. We're apparently at the middle-end of an arm of the galaxy (which makes the Milky Way appear in the sky). Look far, you'll see other galaxies. Just like ours. If we are generous and say the prospect of intelligent life in space is 0,00000000000000000000001%, then that could be a couple of hundred planets. Yes, I believe there is life in outer space, but no, I don't think we've been visited by abducting aliens. That's another attention-seeking "make me *important*" ploy. In any case, we are not important and we are not powerful. We might have developed a weapon to destroy our planet. Any convenient supernova will demonstrate how pathetically useless all our power really is. This is nature's game, and we humans are totally insignificant.

Sounds damn depressing, yes. But we *must* talk about it in this way as we will hopefully stop blaming God and each other and begin to look at it objectively... There *was* an Ice Age. We all learn this in school. It stands to reason that there will be a corresponding warm period. Someplace up in Scotland are the fossilised remains of tropical trees to suggest that this may well have been true in the past.

A Serbian guy called *Milutin Milankovic* has devised a theory called, oddly enough, *Milankovitch Cycles* which describes the motion of the earth as a series of corresponding cycles: The orbit around the sun will change slightly every 100 000 years, the angle of the earth every 41 000 years, and a mere 23 000 years for the axis wobble. If we plot those together, we'll get a great celestial-scale *biorhythm* for the planet. While his theory is disputed, it is a pretty good explanation of the cycles that the planet endures without resorting to the arcane, for Earth went through changes and fluctuations long before humans appeared, and it will do likewise when we are nothing but a memory in nobody's minds.

What to do about it

I can't be bothered with the armchair anarchy of suggesting that you boycott energy saving bulbs and leave your heat on all night. If you think this is making some sort of statement, go for it. Whatever.

Instead, we need to press our governments. England, Scotland, France, Germany, USA, India... you can name practically *any* country. Look at what is happening. What went wrong in England in the summer of 2007? A lot of flooding. Why? Housing on flood plains and insufficient drainage. The solution? Pass legislation to restrict building on places obviously prone to risk. Invest money in drainage schemes. If this means digging up Hull to stick a whacking great pipe down the middle of town, do it. Would the residents rather a few weeks of chaos, or waist-deep water in their homes? It might sound drastic to consider levees for places such as Chichester and Bristol, but if the sea levels begin to rise then I'm sure the residents would appreciate something getting underway before it is too late, instead of the bogus "*we did not forsee this, lessons will be learned*" excuses, as is usual...

What to do at a personal level

It makes sense to be more power-economic. If this means unplugging stuff instead of leaving it on standby, then do so. Frankly I don't really care for saving the planet as I don't think unplugging my Sky box will make any difference to the Big Picture, however it could save me €30 on a bill. According to the law of instant gratification, I can take that €30 and have a good meal or buy another MP3 player... ...or I can pay it on a bill. I know which I'd rather do! Before you argue the "if we all unplug...", there is always some plonker who will think "if he uses less, more for me!". We saw this on a grand scale with the polluting nations looking to balance their carbon problems by buying credits from underdeveloped nations. *So not the issue*. The polluting nations were the problem, the carbon scoring is trying to bring that under control. To purchase credits means that the only thing that changes is the nation is more eco-friendly **on paper**, for little actually changed. So please don't use logic like "if we all...", for "we" as a collective are too selfish. And, yes, I would include myself. I'm not a saint, I'm sure there is stuff I'd not want to give up. In fact I am writing this on a computer, and listening to *Classic FM TV* via a satellite receiver and cheapy HiFi with headphones when I *could* be doing a crossword puzzle (printed in eco-ink on recycled paper, of course) by candlelight...

Where to go from here

One of the greatest lessons that the Wired Generation has to offer is the freedom of thought and the freedom of information. Don't just simply assume something is right because you see it on your screen or on television. Some people have a vested interest in distorting the truth. Some people don't understand the issue. Some people make mistakes. So collate information. Examine it. Pick out common threads and **make up your own mind.** Don't consider that the BBC News (or programmes like *Panorama*) will tell you the infallible truth, and don't consider that I would tell you (or even be capable of telling you) the infallible truth. Take them as opinions. What I write is what I believe. I present it as an alternative opinion. Take it, run with it, or rubbish it. Your choice, so long as you make the choice.

And, don't forget to turn off the light, last one out... •

:) Go figure! (:

The end is drawing near...

As much as it might seem like a light breezy read to *you*, there is quite a lot of time and effort expended in the creation of *Frobnicate*.

And, well, let's couple this time with the statistics for issue #29 as of 2007/12/12:

Documents:			
OvationPro format	**11**		
Adobe *PDF* format	**25**		
MP3s:			
Article: *Welcome*	**13**	/	**3**
Article: *Too sorry*	**12**	/	**3**
Article: *Digital TV*	**13**	/	**4**
Article: *Iyonix*	**12**	/	**2**
Article: *Go figure*	**15**	/	**2**

The second figure is with 'bots' omitted.

Couple these less-than-impressive figures with the general lack of responses I obtain for questions and such, and you'll see why I am bringing end end to *Frobnicate*. It *may* return, some day. Just not for the foreseeable future.

Perhaps in this day and age, people just don't have the time or inclination to wish to read something like this? Perhaps it isn't "multimedia" enough – too few bells and whistles? I don't know, for the feedback I receive tends to only come from a select *couple* of people. Everybody else? Well... In newsgroup terms they would be classified as "lurkers". Those who may or may not read, but do not participate.

You *cannot* be serious, man!

While some of the stuff I may have written about in "*Go figure*" has made some sort of sense, here is one that will really make you shrug and thing "*mmm, go figure!*"

Don't ask how I came across this, I don't remember. I have to fit all my surfing into half an hour a week so I typically have four or five MSIE windows active at the same time, with longer downloads (like those 14Mb anti-virus updates) running in the background. But when this popped up in the browser I *did* read the main article, twice, just to be sure it wasn't some sort of wind-up. Then I copied it to my CD-R and read it *again* at home, after fixing the awful colours (specifed in the CSS). Well, here it is, the URL:

```
http://www.pauldavidson.net/2006/1↵
0/22/adult-diapers-for-the-rest-of↵
-us/
```

For those we have not already reached for their keyboards to see what I have unearthed (as if the URL isn't a bit of a hint), this is what appears to be a normal person suggesting that life would be much easier if we all just "wore diapers" (or nappies in English English) and did what we needed to as and when.

No, not just people with illnesses or stuck in wheelchairs or bed-bound, but *everybody*. Yup, as I sit here writing this, I could be happily bashing away at the keyboard, listening to KT Tunstall, and wearing a dirty nappy. Like I said, *mmm, go figure*!

As with any outlandish idea, there are bound to be those who think "hey, that's not a bad idea" for watching insanely-long epics at the cinema/stuck on the M25/stuck in a tedious day-long business meeting/blah blah blah. The rest of us might be tempted to just say ***eeeeewwwwww!!!!***

Paul says "*What if you could sit through that long meeting without a care in the world, smiling away as the warmth spread across your body and face?*" Far be it from me to throw a spanner into the corporate machinations, but aren't pee breaks designed so you can get the hell away from that tedious long meeting?

He continues "*What if you could lay in bed and never have to get up?*" If you are lying on your side, it tends to leak more than it holds. Trust me, I speak from experience working as a Care Assistant. You'll need a sort of washable mat thing called a "kylie", or maybe just a rubberised mattress? Neither look like something I'd plan to sleep on.

He then goes on to argue that it is "better" for us to use a nappy rather than go use a toilet. In fact, he seems to take the stance that it is an evolutionary enhancement to pee as and when, and that "holding it in" is not healthy. The obvious question is if we

were not designed to store our waste products internally until it was convenient to empty, why on earth do we *have* a bladder? Or bowels for that matter? If we were to have evolved to wear nappies all the time, surely we'd have evolved without a bladder? There'd be a direct pipe between the kidneys and whatever place you pee from (depending on gender) and thus it would be a sort of constant dribble?

Be sure to read the user comments, you'll no doubt get a bemused giggle from some of them.

My final comment on this: I'd *really* like to know what Paul has in mind for the disposal problem. Some people believe that a nappy should be kept until it is "full" while others believe in changing as soon as it is used. In either case, if *everybody* used nappies, it wouldn't matter if they were disposable or washable. Nappies are making an environmental impact right now and they are only used for children up to five or sixish, the institutionalised elderly, and a for variety of medical reasons (pregnancy, diabetes, etc).

We are supposed to be freaking out about the energy 'wasted' by LCD picture frames, so imagine the millions of kilowatt hours burned up washing these millions of nappies... And those who wanted to rebel and not wear a nappy would be forced into it by the sheer inability to go anywhere, for the piles of used disposables would overflow the landfill sites and fill the streets like an icky blizzard. Or maybe Paul's plan never actually considered this part of the equation? Okay, say it with me: ***Mmm... go figure!***

Geek paradise?

Next, and one might suggest a few years late, *but better late than never*... a large amount of RISC OS source code for us geeks to peruse and play with.

Sadly I have not found the sources for the *kernel* so it isn't possible to build yourself a soft-loadable ROM image from the ground up... (yet?) but there are plenty of other things to occupy your time.

You have sources for many standard applications. *Paint*, *Edit*, *Patience*, all the usuals. Thrown in too are the **complete** sources for *Browse*, apparently in a JavaScript-capable version, as well as support modules and libraries and such, plus *WebServe*.

As an aside, I wasn't aware that a JS Browse existed. If anybody has a pre-built executable of this, could they please sent it to me as it'll be a LOT easier than trying to work out where to put everything to build my own?

That's not all. Ever wanted to see how *WindowManager* works? Piece of cake, just wade through a little over a ***MEGABYTE*** of hand-written assembler code! There are also sources for filing systems (*ADFS*, *DOSFS*, *RAMFS*) plus the filer-extensions where necessary. This isn't all, thrown into the mix are sources for the *FontManager*. Maybe Microsoft can employ somebody ARM-literate to work out how the thing works so they can copy it into Windows instead of that piece-of-crap "font smoothing"? Or the LCD-specific "CoolType"?

I think many geeks have contacted Acorn, RISC OS Ltd, Castle, etc etc asking about sources for various things to implement their own fixes. I myself thought *WebServe* would be a useful proxy server for a local intranet, but I wanted to fiddle *WebServe* so it refused connections from IP addresses that were not 'local'. The Acorn World release (the latest version, I think?) does not make this distinction. I would also like to *force* DOSFS to *always dismount* after every write. DOS floppies are dead-slow, so I doubt this would be much of a speed hit, and it would prevent the possibility of damaged data due to incorrect dismounting.

Now a warning. You are, sadly, going to have to try to wade through a mass of libraries and MakeFiles which bear little resemblance to each other. It gets worse. The MakeFile for *WebServe* specifies "`-DCOMPAT_INET4`" to the compiler. However later on in `TCPIP_Lib:net.h.if`, this option is not 'seen' and consequently the wrong code is included leading to a compile failure. Get used to failed compilations, you'll see them a lot...

A warning for PC users: The sources are available in "tar.bz2" format. Some sort of Unixish compression scheme that WinZip doesn't understand. I unpacked the lot on my RiscPC with the software referred to.

Never mind. It is a ***great*** start, and I look forward to the day when *all* sources are available so we hardcore geeks can "roll our own". I'd love to softload my own customised version of RISC OS 3.70!!!

http://www.riscosopen.co.uk/

Bits and Kibibytes

If you look up anything geeky on *Wikipedia*, you will notice that techie values are given in a slightly odd terminology. For example, the addressing range of the 6502 is 64KiB. This, the "KiB", is a Kibibyte.

It appears that the official unit of computer measurement is no longer the *kilo*byte (or *mega*byte) as these were based around base 10 terminology (*kilo* being 1 000). As any geek will know, *kilo* in computer terms is 1 024, which is the closest you can get with binary values (it is `1 << 10` or 2×2×2×2×2×2×2×2×2×2).

Frankly, this worked. This did us well for nigh on half a *century*. I use *kilo*bytes throughout my website and *kibi*bytes nowhere.

Then, with the introduction of really big harddiscs, advertising slime decided that a few minor 'lies' could work wonders. Let's take a harddisc of 20Gb (that's *real* gigabytes). We are looking at a disc containing 21 474 836 480 bytes, assuming none lost for 'internal housekeeping' and formatting. Now let's look at it from a slimeball point of view. Divide by 1 000 and not the usual 1 024 and suddenly the harddisc can offer the user 21,47Gb. Might not sound like much, but this is a whole "gigabyte and a half" over the competition who isn't trying to pull a fast one on us.

It is, perhaps, for this reason alone that I wish to resist the desire to use *Kibi*byte terminology. Yes, I know *kilo* is strictly incorrect, however it suited geeks for half a century with nobody complaining and has only been redefined in recent years thanks to bad advertising practice.

While we are at it, perhaps we could redefine some of the other terminology used in the geek sector. How about *Master/Slave* to which some sensitive souls apparently object, despite it being an accurate description. Perhaps *Controller/Peripheral* or maybe just *Host/Device* if you don't want to be so verbose.

In addition, can we **please** fix this IDE/ATA nonsense of *Master* drive and *Slave* drive? The actual *Master* (the controller) is a little chip on your PC's motherboard, quite likely a combi-I/O device (such as the SMC 37C669 if bog-standard IDE). The harddiscs are **both** *Slave* devices – they both respond to commands from the controller. Furthermore, using the *Master/Slave* terminology could imply that the controller talks to the *Master* drive which then talks to the *Slave* drive, which then replies to the *Master* drive which then replies to the *Host*... this being a possible explanation for why hanging two drives off of one IDE bus has a speed impact.

It's completely bogus! The speed impact is because an IDE command, once started, needs to complete. It isn't SCSI-land! You can't set one drive off to do something and then communicate with the other drive while waiting for a response from the first. That is why there may be a speed impact... and that is also why it is recommended *never* to have a CD or DVD drive on the same bus as a harddisc – for the basic reason that optical units are slower and will therefore tie up the interface for longer. By running them on separate interfaces, an operating system that supports concurrent file activity can send the CD/DVD to do something and then do whatever is required on the harddisc meanwhile. Like "*open movie file seek to start; meanwhile dump some memory to swapfile so we can buffer more of this movie*". With separate buses, this is possible. Otherwise, the harddisc operation would need to wait until the CD/DVD replies "*okay, done that!*".

At any rate, it is far better to see IDE drives in the sense of *Primary* and *Secondary*; for not only is the *Master/Slave* terminology potentially dubious in today's mollycoddled world, it is also quite wrong!

Animé

You may have already found the channel *Anime Central* on Sky (28.2ºE). If not, it is free-to-air and available as channel `#199` between 9pm and 6am UK time. For people with FTA receivers, run a transponder scan on `11643 V` (27,5Mbaud, 2/3) after 9pm (else you'll get *PopGirl*).

To date (the channel launched in September), they have broadcast or are broadcasting the following:

> *.hack//SIGN, Bleach* (seasons one and two)*, Cowboy Bebop, Fullmetal Alchemist, Ghost In The Shell : Stand Alone Complex, Ghost In The Shell : Stand Alone Complex 2nd Gig, Mobile Suit Gundam Seed, Planetes, s-CRY-ed, The Vision Of Escaflowne, Transformers* (three different)*, Witch Hunter Robin, Wolf's Rain*

You can read all about this at:
http://www.heyrick.co.uk/ricksworld/anime/

Say hello to *Aiko*...

I have inherited a computer. A heavy monster of a thing, tower case, fully RF shielded. Some sort of Packard Bell machine with generic MSI mobo.

My very first thought was "um..." when I got into the BIOS setup. "*Designed for Windows 98*", the machine sports a 450MHz Pentium *III* with 128Mb RAM. I wasn't overly impressed as my laptop is a 466MHz Celeron (with 64Mb RAM). But on the plus side this box had an NVidea GEForce 2 graphics card (64Mb onboard) so hopefully no more programs crashing because I don't have 3D hardware and the programmer being too much of a dick to actually *think* of checking first... Add to this, a rather nice 80Gb harddisc. I rustled up a keyboard and a mouse and decided to give XP a spin.

I was impressed. Not quite as slick as the library machine (clocking around 3GHz in a ridiculous amount of memory), it was holding its own versus the laptop, while running a heavier operating system (sadly, the *FisherPrice* mode has grown on me, I think I need my head examined).

So I decided to rummage around my CDs and stuff. Try out some media. Now the laptop (*Angelique*) can manage a DivX in, like, quarter screen with a tailwind assisting. This thing, loaded up that yucky-looking Windows Media Player, and off it went. Full screen. It played DVDs, it did rather a lot of stuff the laptop struggled over, like booting... :-)

Then came the crunch. I never really got into the idea of "ripping" stuff off DVDs. Never bothered with one of those little portable media jobbies so I could watch *Amélie* any time. Why? Well the laptop converts to MPEG1 (VCD) at exactly three frames per second. This was with using *Process Explorer* (from www.sysinternals.org) to bump the process priority of the ripper up to "high". The monster machine? I thought I'd do the same thing, only with DivX. Standard quality, medium sized resolution (480x320 – on my TV I tried that *and* 640x432 and I couldn't tell which was which on the television, so I picked the smaller to arrive at a smaller file). This machine converted to DivX at *six* (point two) frames per second.

This, obviously, got me to start to examine the inner workings of the machine. Okay, the Celeron in the laptop is about the size of a two euro coin, while the thing inside *Aiko* is almost the size of a Sky remote controller. I'm not sure how much is processor, but how is it a 450MHz processor is kicking the ass of a 466MHz processor? Is somebody messing with me? Has this thing been overclocked to, oh, 750MHz?

In technical terms (and details from *Everest Home Edition* – www.lavalys.com) , the level 1 cache is the same on both machines. 16Kb for data, 16Kb for code. We see dramatic differences in the level 2 cache. The laptop has 128Kb on-die running at full speed. The tower box has a whopping 512Kb on-die, but this is only running at half-speed.

Then we begin to see something *really* interesting. The clocking rate of the Celeron is 67×7, while the clocking rate of the P3 is 100×4.5.

Is this saying to you what it is saying to me? Indeed it should be. The bus speed, and the clocking between the processor and the memory, is 66MHz in the laptop, and 100MHz in the tower machine. This leading to an effective burst rate of 533 Mb/sec for the laptop, and a rather better 800 Mb/sec in the bigger box. So we can start to understand where the difference comes in. But 5 into 8? That is not half. Actually 6.2 fps MPEG4 vs 3 fps MPEG1 suggests that the tower box is actually *more than twice* as fast.

Time for some benchmarks. *Everest* does a rather simple memory benchmark. None of this dhrystones nonsense, it simply whaps a bunch of data around and tells you how fast it managed.

	Reading	Writing
The laptop	222 Mb/s	76 Mb/s
The tower	495 Mb/s	173 Mb/s

There you have it. Irrefutable. The old laptop is *sslloow*. Also, imagine the insanity of fitting a 466MHz processor and hooking it to a system that behaves like it's a 250MHz processor!

I'll have to rethink my perceptions of what a ~450MHz machine can do. The tower runs *RedSquirrel* slowly but usably. The laptop limps through a tragic emulation using *Archie*.

Oh, and *Aiko*? All my computers have girl's names beginning 'A'. *Aiko* is Japanese... "*Ai*" meaning love, and "*ko*" meaning child, hence something like "lovely child". I picked it 'cos it was short. :-)

Getting to grips with XP

Until now, my Windows version has been 98SE. Now, thanks to *Aiko*, I have XP. And, yes, I have kept the FisherPrice™ blue theme. It kinda grew on me, sad really, but never mind.

One of the cool things is the *hibernate*. Okay, the computer isn't able to turn itself off (duh!), but at least I can push it away – exactly as I left it – and pick it up, you know, after the movie is over.

Image captured from Windows XP display.
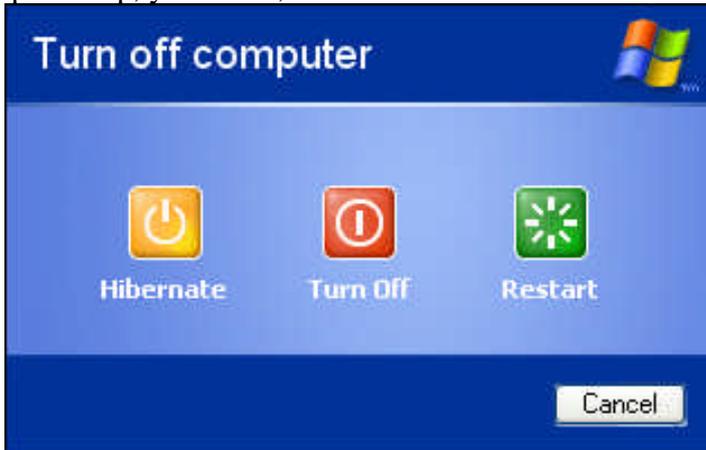
The fade-to-grey effect is a nifty bit of visual fluff. It's a much nicer effect than the flat tights-stretched-over-the-lens of the older versions of Windows.

But the coolest feature? Hands-down, it is *System Restore*. Somewhere along the way, something went seriously wrong with my system in that both optical media devices (a CD/DVD reader and a CD/DVD reader/CD(-RW) writer) were unable to 'see' anything beyond the first session written. This is rather annoying when you consider that I use multisession to incrementally add stuff downloaded at the library (where I have my Internet access). The year 2007 is represented by 4 CD-Rs, or about 35-40 sessions. I do not know what was causing this problem, and faced with the grim task of an operating system re-install, I decided to hit `F1` for the "Help And Support Center" (sic) because I dimly recall somebody saying that the best advice they could give to an XP user is to make regular restore points. So I looked this up in the help. Well *Hot Damn!* (as Bill Clinton might have said, to keep with the naff Americanisms :-)), this was just the ticket. I was hoping XP would be smart enough to have created a restore point after the OS was installed, so I could throw away recent changes and start again. Actually, XP was quite a bit smarter

than that. There were over a dozen restore points. All that remained for me to do was to simply work backwards through them until the CD-ROM drive worked again. I *suspect* it was something to do with the software I have to allow DVDs to be played without the hassles of region coding. I'm not one for buying DVDs from overseas, the furthest I've ever bought a DVD from is an Internet company based in Ireland (and fine service they provided too!). However if either my friends or mom's friends wish to send something (like, from Canada), it would be nice to *not* have the computer spit it out. So, after unwinding the restore states until I was happy the machine worked, I then set about reinstalling the stuff that was more recent than the restore point. Not a lot as it happens. Luckily. About four restores later, the system works. Much easier than a reinstall!

I like the file protection. I use *Metapad*, it looks and feels a lot like *Notepad* but it is so much more. So I rename *Notepad.exe* so I can copy in the Metapad executable (calling itself Notepad so it loads instead). No can do, *Notepad.exe* was there. I spent a few minutes absent-mindedly deleting the executable and watching it reappear (you know, small things and small minds...). Eventually, after some poking, I figured out to temporarily disable the cypto service to drop in Metapad without XP seeing. And then I turned the service back on in case I screwed up anything important.

As you can see from the front cover, I have been having a play with emulators. I am running XP, obviously. In a virtualised 'PC', I'm also running RedHat Linux 5.2. Oh, and there's a RiscPC lurking too. I also have, yet to try out, a Mac emulator (never used a Mac before) and "AmigaInABox" (never used an Amiga). And this is only a 450MHz computer (which can struggle at times). Given a nicer 2-3GHz box, emulation suddenly becomes a very viable prospect, meaning you don't need lots of boxes, monitor leads, switch boxes, etc. We can't all toss the old machines just yet, there are limits to emulation – namely reading non-FAT floppies. Acorn's ADFS, Atari, Mac, and Amiga discs fall firmly into this category. Solutions are generally available, but firing up the old machine with a serial or Ethernet lead hanging off is so much simpler!

Ironically, the biggest compatibility issue is with XP's own "console". The command line. My first attempts to use my *Amélie emulator* (written in C using TurboC++ v1.0) failed because the system does not report "it is Windows" like older versions of Windows, and for some bizarre reason I see that the benchmarking test said that the emulator achieved a staggering 819 passes through the code. This rose to around 10,000 when I dropped in a command to print a space to the display every 16 passes. I was *expecting* between 150,000 and 200,000 (with 200,000 being the same speed as a real 6502). Go figure.

Oh, and before you suggest that I write a 32 bit application, I did - I cloned CONIO for the 32 bit "console". That runs *slower* than 16 bit DOS. *Go figure!*

I also got bitten by XP's more paranoid approach to physical hardware devices. My *WinTTX* software caused me to experience an "inconvenience" which Windows would be happy to report to Microsoft. The little DLL that bashes I²C to the parallel port caused an exception. Well, after turning off the error reporting... No, I *don't* want to tell Microsoft every time I am inconvenienced; unless they can guarantee I'll never have to wake up before noon and my favourite TV programme won't ever be cancelled due to some boring sporting event; on and the AnimeCentral will only ever show *new* episodes every single day so I can be stuck euy-bluey to the small screen between 9pm and midnight; except those days when something I want to see is on FilmFour or Zone Horror or, rarely, BBC THREE. Can Microsoft sort out *those* inconveniences? No? Then I think I'll just switch off the reporting...

Thankfully, when you are the system administrator, XP is quite easy to fool. A little device driver and a bit of a patch (not mine, I hasten to add), and suddenly *WinTTX* appears to work on XP. I've not tested it with an actual teletext receiver yet, but at least it no longer crashes. I'll see if it can spot the printer. I cannot test it using the teletext receiver because *Aiko*'s case is a tower case with an ATX size board inside. It's a big tower case. It feels like it is lead-lined, and certainly there is very little radio interference from the machine. The teletext receiver? That's underneath... :-)

My biggest gripe? Actually, it isn't with XP. The transition to using XP has mostly been a hassle of files on *one* computer that I want on the *other*, and the usual problem of the operating system not recognising fairly new (*Trident 3DWave NX sound card*) and fairly old (*miroMedia PCTV based upon Bt848 chip*) hardware. Nothing *that* unexpected.

No, my gripe is this:

> ⚠ To help protect your security, Internet Explorer has restricted this file from ❌
> showing active content that could access your computer. Click here for options...

I have not figured out how to turn this off. I am not even sure what "security zone" the `file://` URLs fit into. I would *like* to set these (and these alone) to be "trusted", so I can develop my website without stupid *MSIE* giving the above prompt over and over. Oh, I *could* use *Opera* but I find *MSIE* is friendlier (and it doesn't cock up printing monospaced text). To me, *Opera* is the browser I use **on-line**, while *MSIE* is the one I develop with.

Oh, I *could* make all this "go away" by running *Savant* (a heck of a lot easier to set up than *Apache*) and calling `http://aiko/` URLs. Well? Then clicking "`View source`" will open some cached copy and *not* the live document. So that's not really right either. Does anybody have any ideas as to how to bend *MSIE* to stop being paranoid about local files *without* compromising live Internet access? Thanks Microsoft, I appreciate you want to help protect my security. Just, you know... *don't* this time, okay?!?!?

By the way, some images, some URL links, and a bit of really basic JavaScript?
Check it out yourself at:
http://www.heyrick.co.uk/ricksworld/anime/

In this way, I guess system security is a double-ended sword; the balance between what freedom you have as a user and what restrictions are imposed on you so that errant software doesn't kill your machine.

At the moment I use XP as an "administrator". When I (ever?) get on-line, I will have to look at the options for creating a 'user' profile with restricted access to use while browsing so if the worst does happen, it won't be *too* bad.

When copy protection fails...

I borrowed *"The Day After Tomorrow"* from my library. Well, it was *"Le Jour D'Après"* but it came with original soundtrack as an option. I had already seen the film on *FilmFour*, but I thought it'd be nice to watch without ad-breaks and also – as it was the "prestige" version – to watch the docus and making-of stuff on the second disc.

The packet contained a brief mention to the copy protection (a thing that looks like the not-permitted road sign (round, red border, diagonal red line) with something akin to two horseshoe magnets stuck end-on-end. Then it gets serious. The disc starts with a minute long missive about not stealing copyrighted material. Thankfully you could chapter-skip being patronised by an industry that offers us *region coding*. And then, after selecting the audio choice I wanted, it was on with the movie... Only I couldn't. This movie was protected by "Macrovision".
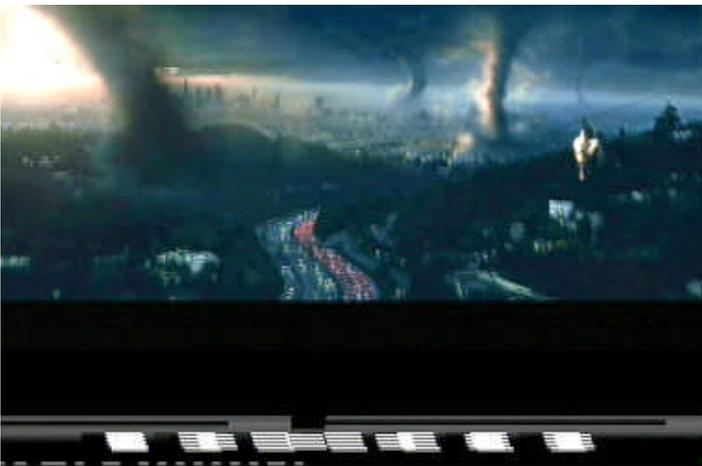
Image from "The Day After Tomorrow" prestige DVD.

You can see, from the picture, the Macrovision at the bottom. The way it works is quite simple. Alternating blocks of black and white at the top of the picture confuse the AGC in video recorders so home taping is not possible as it takes the AGC about half a frame to recover, meaning the recording is seriously messed up (and it affected my capture card as you can see). Quite clever, I'm sure you'll agree. Unfortunately the level of protection used in this particular movie messed with my television, the top inch or so of the screen "tearing" and the picture rolling every so often. In addition, you could see the black band across the top of the TV (it was a letterboxed widescreen film) alternate in brightness as the macrovision switched on and off. I did not feel inclined to watch the film in that state, and I was glad that it was a loan film and not one that I paid money for. There *was* a cure.

The unfortunate thing, from the perspective of *Twentieth Century Fox*, is that the cure is part of the very issue that they were so patronising about in the DVD intro. I fired up my DVD ripper software, told it to remove the macrovision (I guess this means it blanks the top part of the video frame?) and then re-encoded it as an XviD. Leaving my computer on all night, it finally arrived at a 540Mb file representing the 1h58 film in acceptable quality. I copied this to a USB memory device, then plugged that into my DVD player and *then* watched the film *without* any unwanted visual disturbance. (yay!)

My equipment is not terribly sophisticated. A €25 DVD player, connected via composite video to a mid-range HiFi capable video recorder which is about 8 years old, connected via UHF to a 25 year old Sanyo colour television (it only has UHF input, it predates the acceptance of everything else). When I'm not using the DVD player, the satellite receiver is connected in its place. I rather wonder how this disc would have behaved on more modern equipment. Did I suffer more because my TV is old? I have other titles (that I own) which incorporate Macrovision. Never had **any** of them affect the television in this way.

Whatever Fox may say on the issue, the point of releasing a DVD of a film is so that the owner (or borrower, if licensed for loan), may watch the film. Their stance on copy protection in this instance meant that the only way to watch this film as *Roland Emmerich* envisaged it was to circumvent the protection and copy the film in a different format. All a bit of a hassle, and rather ironic, no?

Bye bye!

Well, that's the end of the rambling through my mind. Probably just as well. If nothing else, I have three pieces of advice to give:

1. Eat your cereal with a fork.
2. Do your homework in the dark.

and: 3. Make regular Restore Points. Do it **now**!

```
Start menu -> Programs -> Accessories
-> System Tools -> System Restore
Choose "Create a restore point". •
```

Review: MPman MP-FUB34

So I have gone and bought myself *another* MP3 player. This one differs from the others in that it contains 1Gb on-board (my previous have been 256Mb versions – which tended to fill up all too quickly).

How does it compare?

The technology within this MP3 player is essentially the same as my first - the *Technika ML-2*. The heart of the device is a *Sigmatel MP3502*. This varies from the *ML-2*'s *MP3503* in that it does not support copy-protected WMAs (DRM), but it can play unprotected WMA in addition to the expected MP3 format (both fixed and variable bitrate – from around 5Kbps to 320Kbs for MP3 or 384Kbps for WMA).

The user interface

Offering a blue backlit LCD with a matrix in the order of 128x32 (according to the guide), you are kept informed as to the music format, repeat/EQ setting, battery status, song time/duration, and count (i.e. this is song 12 of 204). It doesn't tell you the bitrate, that's a "technical" thing, and you'll soon see that technical things have been mostly omitted from this player.

Along the bottom is a larger scrolling area (with a choice of scroll speed) that tells you the song title, artist, and album (read from the tags embedded in the music file). If any of this information is not present the player will say it is unknown – for example:

`"Test MP3-(Unknown Artist)-(Unknown Album)"`.

When you switch the player on, it will briefly say "Scanning for new files", followed by "Updating music library" if anything has changed. How long this takes depends on how many songs you have – it takes about a second to catalogue 10 songs. Finally it will say "Creating new playlist", and from there you can begin playing your songs, according to your choices. I use the "Shuffle repeat" mode to play all songs in a random order. The difference between this and regular "Shuffle" is that when all songs have been played, it will begin again instead of stopping – however given my current playlist is around fifteen hours, the battery (a singe AAA) usually runs out before the playlist does.

This leads us to a major departure from previous players that I have owned. It introduces the concept of a "music library". Within this you can choose songs according to the criteria of "everything", specific artists, specific albums, track-by-track, specific genres, or specific years. If you pick, say, to play according to year, you can then select a year (such as 1989) and you can then pick a song from that year, or choose to play everything from 1989, such as *Soul II Soul*'s "Back 2 Life". I don't much like the song, I just thought I'd throw it in to reminisce about the era when everybody thought it was 'cool' to play keyboards shaped like guitars...

I think the music library system would be good for people who are more into music than computers, for it is a total abstraction from the files-in-folders view of things; and furthermore there is *no* way to access the underlying filesystem. You *can* delete songs you no longer want (select a track, then press 'down' (`Vol -`)) but this isn't mentioned in the instructions, I discovered it myself.

Such a degree of abstraction is a problem for me as I tend to record stuff from various satellite-based music channels – it's basically a modern-day version

of "taping stuff off the radio", which is then arranged according to channel and date. There's usually no album, the dates are either not known or are all different, and the artists are usually different as well – *Avril Lavigne*'s "*The Best Damn Thing*" followed by *A Fine Frenzy*'s "*Come On Come Out*", then *The Ting Tings*' "*That's Not My Name*", finally *Bana*'s "*Shell*"... Without a choice to play a specific *directory*, there is no way I have found to be able to "play the stuff in this directory", obviously.

Sigmatel

Because we are back to Sigmatel hardware, there are two things to note. The first is that the EQ sounds decent. Using the *same* earphones as with the *IItronics* player (issue 29 page 18), I have selected "rock" mode. This provides enough of a bass boost without swamping the treble. It sounds quite good, and seems to be suitably 'bright'. Perfect for lying in bed listening to your favourite music when you can't sleep.

That's the good news. The bad news is that the audio recording is hopeless. In fact, I'd be inclined to say *worse than useless*. The little microphone is buried inside so it receives a muffled sound, which is then not sufficiently amplified. Exactly the same as the

ML-2. However to further add insult to injury, there is a loud burst of static every second. I'm not sure if this is processing interference, or interference from communicating with the LCD. In any case, I am surprised this passed quality control, although I am inclined to wonder if this is a design issue rather than a problem with my specific player.

To demonstrate to you what I mean, there is a recording of this on the website. It was recorded on both the *IItronics* and this MP3 player at the same time, best quality option. You'll hear what I mean.

Battery life

This player uses the older type of Sigmatel device, so it should achieve four to eight hours (depends on charging and cell capacity, I use 900mAh Ni-MH).

You ought to get eight-plus from a standard alkaline cell, but in the long run those alkalines are not only

environmentally bad, they'll work out to cost more than keeping some rechargeables handy – even those cheapo euro-for-four will add up in the end.

This player runs off standard batteries, not a built-in Lithium-Ion cell. I am inclined to prefer it this way. For example, I am writing this text on an *Acorn PocketBook II* which is essentially a miniature *IBM XT* with a small "office suite" provided, all within a "palmtop" profile. Why am I talking about this? Easy – it runs off two AA cells. Battery life is *never* a worry, for if I should see that little battery indicator winking at me (as it is now, after more than 26 hours of use), I can simply pop in two fresh AAs for many hours more service. If it had a special built-in battery, then when it runs out.....it runs out.

I saw a Sony player in the supermarket that claimed you can quick-charge it – three minutes would give three hours of playing. That's all good and proper assuming you have a USB port to jack into for the recharge. Perhaps not so convenient if you are sitting in the car, or out on a hike on a nice sunny day...

...so while built-in batteries and self-charging off the USB port have their benefits, there are more benefits to normal batteries. They can be purchased all over the planet, an AAA cell goes by various names ("Mignon", "HR03", "Micro", "HRM11", etc) but the size is recognisable. An AAA is an AAA. Couple this with the fact that you can purchase AAAs in rechargeable (NI-Mh) form, you can pop two into your backpack and away you go! In the end the player may work out to be larger than one utilising custom-built internal power cells, however the flexibility more than makes up for this.

Note that the lifetimes quotes are, largely, guesstimates based upon my perceptions of using this MP3 player, I've not measured the exact durations. That may even depend upon bitrate/volume, etc etc.

Interface

The device interface is USB. The *Sigmatel MSCN* devices are known to Windows, so use with all after *Windows 98SE* is truly plug-and-play.

The player is compatible with USB 1.1 which is useful for people such as myself with old hardware.

Bundled goodies

The CD supplied contains the necessary Windows 98 driver. I was pleased to see that this included a little green arrow on the system tray, so I can choose to dismount. I always figured the idea of "pull it out when it doesn't appear to be in use" to be very dodgy. There are also user guides for a range of players, in various languages. Also included is a movie conversion tool that is of no use to us – though higher spec players can show movies in a special (lowish resolution "SMV") format. Perhaps the most useful software is a viewer/editor for ID3 tags and a tool to generate lyric ".lrc" files which can be used by the player for "lyric synchronisation". What this means is the display will show you the lyrics of the song you are listening to at the correct point in the song. The unfortunate thing is that this software, written in VisualBasic, relies upon several OCX extensions – the Microsoft hierarchial flex-grid, and Panther something-or-other for the ID3 tags. After performing a binary search on a DVD-ROM of a software compilation, I located the flex-grid in a CAB file, but have not yet found the other library. In addition, the software fails to write its settings. It tries to write to "\mpman.ini", and this does not work (under W98SE). A quick binary patch later, it writes to "xmpman.ini" (note: no backslash). It works now.

Unfortunately there is a problem with my system setup (the laptop) where trying to play an MP3 results in the wrong driver (*MpegView*, a 16 bit player) being loaded by default. This is, admittedly, my problem but the previous error (the .ini file one) stops you doing anything useful without patching the software...

I would imagine that the software is not much good for most people in the same situation – it is quite buggy for release software (or nobody bothered to test it on pre-XP machines?).

The logical answer: look on the website. There was a newer version of MPtool... This one is just as buggy, only *different* bugs. It will save its settings and display ID3 tags *and* play MP3s, but it won't do lyrics. I forget the exact error message as once it was evident that it was not going to work I deleted it from my harddisc because, well, because by this stage I figured that it'd be less hassle to "roll my own". And this is what I have done. I would like to offer the MPman company first refusal (seems only right), but if you would like to beta-test the software, you'll find it at:

http://www.heyrick.co.uk/software/waxlyrical/

Remember the market

While I have made comments about the stuff that *doesn't* work, it is important to remember that we are not talking about high-end equipment here. It cost 25 euros for a 1Gb MP3 player. That's about £17! Not so long ago you'd have paid more than that for a 1Gb memory device without music playback facilities. I now have the ability to store my songs in good quality (I had, with the 256Mb devices, passed the music through *Lame* to trade off size vs quality, the result being like the difference between CD and audio cassette; in technical terms, usually "-q 7 -V 7").

I feel that, for non-nerds, the organisational system is quite nifty – by genre, artist, album... however it is just a shame that "by directory" was not included.

Résumé

Pros:
- Reasonable EQ options
- Good battery life, and uses *normal* batteries
- Informative display
- Win98SE driver with green-arrow "safe remove"
- Geek-free interface

Cons:
- *Terrible* audio recording
- Buggy bundled software
- Geek-free interface
- Slide-switch to "lock" the device does not place it in "write protect" mode when plugged in to a computer, which would have been useful...
- Is slow on a USB 2.0 (Vista) machine, doesn't seem much quicker than with my USB 1.1   •

Flying with~~out~~ wings

Last year, September 2007, a competition was held by the commerces in a local town centre. The aim, I believe, was to encourage people to patronise the smaller shops instead of visiting the big supermarkets.

When it came time to hand out the prizes, it was staggering how many old people were there, versus how few under-60s were present. This is perhaps the last generation that is resisting the changes brought about by the supermarket ethos. For these are probably people who understand what food is in season when, and would *never* think of having a pineapple for Christmas just because it is there. I know our nearest neighbour, now sadly deceased, lived and died without ever setting foot inside the supermarket. *I* find the supermarket to be cheaper. You can talk about quality all you want, but when a supermarket is willing to offer a bag of ten good croissants for €2,20 it makes a *lot* more sense than visiting a boulanger to buy them €0,85 apiece!

Anyway, we *do* visit the town shops for some things that you would simply never find in the big supermarkets – issues of *RadioTimes* for example! This time, we went into a shop. It's the sort of place you get wool, cotton thread, sewing machine bits... And there was a competition form. The prize? *Baptême a l'air.* The first prize was a trip in a hot air balloon. The subsequent prizes (of which there were about 20) was a ride in a plane. Mom, a confirmed planeophobe, handed the coupon to me, and I duly filled in my details.

And so it was, on a sunny day in October 2007, I was sitting in a tiny airport in Laval (which was a fair distance) looking at this:

It is a *Robin DR-400*. A French-built small plane. If you would like techie details, I suggest you look it up on Wikipedia. For the rest of us, it's like a *Cessna.*

The plane took three people plus pilot. I was sitting rear right. I had wanted to sit up front, but as it turns out the rear gave me more room to move around with the digital SLR that I was borrowing.

The plane started up enthusiastically and we taxied across a bunch of grass to be in front of the airport building. At this point I'm not entirely certain what was going on. It felt like the brakes were locked and the engine kicked up to full throttle. We almost levelled out while resting on the tarmac. I presume this was some sort of pre-flight test.

That complete, we moved again on the official taxi route and down to the end of the runway at which point we spun around to face the other way. This plane was pretty agile on the ground.

The cockpit hatch was now closed properly and locked, the engine revved up and we were off.

Take-off was incredibly smooth. You could barely feel it. We rose steadily, intending to do a big circle around the town of Laval.

It wasn't until we were halfway to our flying height that things started to get a little bit choppy. You know the way you are like *Nnnnnnnnggg!!!* when you are constipated? The plane was behaving like that. It was like *Nnnnnnnnnggg!!! We're up a bit!* and

Nnnnnnnnggg!!! We're up a bit more! You could actually feel it pulling its way up through the sky.

At flying height it seemed much happier, but we are being jerked around quite a bit – I can understand why there were sick-bags nearby. Anybody who has felt queasy in a "Thames Turbo" train (those modern ones with automatic doors and pneumatic carriage suspension) would have horked from beginning to end of this flight. Thankfully nobody did, so on with the story...

From our vantage point, it was possible to see all sorts of hidden treasures. Below we can see a big old house with a rather interesting crop formation, and below that, some Dinky toys around an earth works!
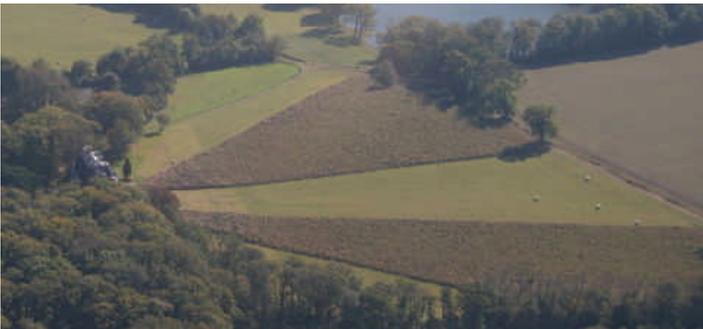
For me, the most shocking thing of the whole flight can be summed up with the following photo.

It's a nice clear day, right? So what's all that crap along the horizon – especially as rural France isn't exactly a known pollution spot. In any case, it is hard to look at a clear sky in quite the same way, knowing that, from a higher vantage point, it will look rather icky.

Speaking of high vantage points, here you can see a large manor house complete with home farm, private chapel, and stables.

Shortly after, it was time to return. I trust it won't be too long until I can fly again. I quite enjoyed it. •

PS: The propeller *was* moving, I was using a fast shutter! :-)

Musings on copyright

There is a lot of information out there regarding the concept of "copyright", and some of it is quite simply untrue, the rest is legally dubious. The reason for this is two-fold.

Firstly we have *the standard lie*. This is the part that says "*You shall not modify, translate, reverse engineer, decompile or disassemble the Software or any part thereof or otherwise attempt to derive source code or create derivative works therefrom.*" Indeed, this is the main part that seems to differentiate American law from European law – as European law incorporates an interoperability clause which permits for reverse engineering in specific cases. It is interesting to note that this is provided for within *Microsoft*'s licences for VB5 and Win98SE...

Secondly, as appears in *WinZip*'s licence "This agreement shall be governed by the laws of the State of Connecticut." While it is typical for licences to state things such as that, I myself refer to the laws of France and the EU, one does have to wonder how much weight this *actually* carries.

For instance, if a product is on sale in a computer shop in Basingstoke and you purchase it and install it on your computer in Farnham... the entire sale/purchase/install took place within the United Kingdom. While licences can augment existing legislation (i.e. you may only install on *one* computer, or you must register within thirty days...), no licence can take away rights and privileges afforded you by local law – namely shifting the jurisdiction to some other part of the planet.

In fact, to all Europeans, can you *right now* (without Googling it) tell me the primary difference between Connecticut state law and that of, say, Okinawa? Of course you can't. I can't. I'm not even sure I could point to a map of the US and say where Connecticut *is* (up in the north east *I think*). And equally the reverse is true. If somebody in Ohio downloads one of my software products and wishes to "get legal", would the state of Ohio like the part that says the jurisdiction is France? Are there any lawyers in Ohio fluent in both French language and law?

You might wonder, therefore, why I put such things into my licences. Speaking purely on behalf of myself, it is something to point to should I be caught up in the absurdities of our evermore litigious society. I can say "it was a clickwrap licence and it stated quite clearly...". It may not help, but in essence a licence is only intended to cover two things: What the user *can* do with the software, and to cover your ass for when things don't work as they should.

The first of those points is particularly important, for any piece of software is a copyrighted entity. It falls under various copyright laws and basically you can't touch it unless I explicitly give you permission. This has certain ramifications for sysops and those who offer files on their websites. I could place a program called *XYZZY* on my website. A plain executable, no docs, no licence. **Technically** you can neither download nor use this software. To do so would be an unlawful act. Why? Because *XYZZY* comes under copyright law which certainly does not provide a free-for-all approach. Sure, you *could* argue that by making the file available, the *implication* was that it may be downloaded and used. Will that hold up in a court? Perhaps it was an oversight on my part? Certainly, one should **not** assume that what they downloaded may be passed on willy-nilly.

In a way I fall under this very problem myself. On my Econet area are various ROM images. Well, *Acorn* as a company no longer exists, nor does *SJ*. Who owns the copyright? I provide the ROM dumps in order that people with the hardware may extend their old computers to preserve their life and functionality. Judging by the number of BBC ROM images around, Acorn took a fairly lackadaisical approach to their legacy systems. By direct contrast, you try finding an *Apple II* emulator that includes the operating system ROM in the package. When I was playing with emulators a few years back, I located three different *Apple II* emulators. None had a ROM, so I never got to see what the US competition to the Beeb felt like.

It is interesting to consider when a file is offered, who is actually committing the unlawful act. It would make perfect sense for the operator of the system to claim that he or she is in no way responsible for the choices that users of the system make. If I download *XYZZY* or half a tonne of porn, it is my decision to do so.

But then, as the user, it would make perfect sense to claim that I was only grabbing a copy of stuff on offer that looked interesting.

I would *hope* that a court would take the logical approach and consider us *both* guilty. The operator for offering, and myself for taking. The problem is a lack of test cases. And, note, this information relates to **British** law in particular, there is scant regard paid to American law as it does not apply "over here".

Which takes us neatly to the next point. There is a big difference between *criminal* law and *civil* law. In civil law, the punishments are usually some form of compensation – damages and costs, which could run into scary figures. Criminal law is the one more concerned with punishment. You go straight to jail and do not collect £200 if you murder somebody, as murder is a criminal offence. Performing the same punishment to somebody who unlawfully uses *XYZZY* is quite harsh and unlikely to happen.

This isn't to say that people who abuse copyright never go to jail, it's just a sentence usually reserved for the sorts of people that run off a couple of hundred copies of Vista® and such and flog them at car boot sales.

Therefore when you see messages such as "*Using this software beyond the evaluation period without purchasing a licence is a criminal offence.*" you should know that they are not telling the whole truth. To a degree, FAST (Federation Against Software Theft) are in part guilty of little manipulations such as this. Copyright 'theft' is unlawful, yes. It is illegal, yes. But it is illegal in the sense of civil law (hence the reason I use the term "unlawful") as opposed to illegal in *criminal* terms.

If we should get really hung up, consider a licence which grants you *one* copy of a program to be installed. Well, there it is. On your harddisc. Sectors 13 054 to 13 066. Problem is, running the program means making a copy in memory. A *second* copy.

Now, in reality there is nobody that is going to get hung up about this. A perfectly valid argument from the user would be that nobody non-geek regards the process of actually executing the program as a "copy", and on some systems the entire program is rarely loaded in its entirety anyway. Furthermore, to flog a dead horse, what is the point of purchasing a licence if you can dump a copy on the harddisc and then *not* use it? This falls under "*Fair use*".

We can take this a step further. Let's say you are using some system with a virtual memory system and you wish to print out that really big picture of *Jennifer Love Hewitt*. Digital images tend to be very memory hungry, so the system will probably flush out anything in memory that has not been used in a while (depending on swap algorithm). Well, then, the system has just made a *third* copy of the software... Does existing legislation permit this? If a person states only one copy may be installed, how literally should this be taken, especially if the operating system does this action on its own?

One thing is for absolute certain. In this on-line world, you should assume that *everything* you download is covered by copyright. It is, therefore, up to you to look for the conditions to which you may utilise that which you have downloaded. You may figure upon using it how you please, but if you should come a cropper, it'll be on your head.

To give an example: Page two has a bunch of blahblah which contains the line "This does *not* permit the reproduction of entire articles within *other* documents." When it was pointed out to me that the *Hacker's Diary* turned up on an on-line diary forum (in those pre-blog days), I suppose I could have taken legal action as it is a pretty clear case of plagarism. The diary site removed the entries as soon as they found out (and it wasn't me that told them). But the way my mind works, I looked at my work with somebody else's name and was like "**Yatta!**". I guess my writing must have made an impression on somebody for them to want to rip off my stuff so blatantly. *Awesome!*

Of course, ripping off my software is likely to be met with a rather different response.

The point is, copyright just *is*. That I have created this article grants me copyright in it. I guess I could add some sort of © attribution, but it isn't *actually* required.

This now takes us to the idea of a *licence* (or "license" in American English). A licence should be supplied with everything. You will notice two pages back I said it outlines what the use **can** do with the product (software, picture, techie document, etc). Indeed, without a licence (or direct permission explicitly from the author/copyright holder) you can't do anything at all with the product. It isn't like a book in that once you buy it you can read it. Software is transient. It can be easily copied, distributed, many identical copies of the same thing. This is simply not practical with a book but it's a doddle with software. So while a book does have a "don't copy me" clause, you don't need to copy a book in order to read it. Copying electronic data is inherent in its functioning so you must refer to a licence to know what you can and cannot do.

Licences come in various types, from the permissive (such as the infamous GPL, or the renowned CopyLeft) to the tight-ass (specifying idiotic things like "you can only use this on a single-user single-processor machine") . . . for many machines are multi-processor these days, from the obvious RiscPC with x86 card to the less obvious x86 jobbie with graphics processor. Well, it *is* a processor. How does one categorise a lump of Intel silicon with dual processing capabilities? It is one *physical* processor but more or less two processors inside.

Anyway, garbage aside, a licence tells you what you can do. No licence can restrict what is lawfully permitted, hence you *can* hack a program (within limits) regardless of a clause stating otherwise. On the other hand, it is quite okay to state that you must register within a trial period of '*n*' days or cease using the program. It is also valid to state things such as "if you wish to continue using this program, you must donate at least £5 to *The British Heart Foundation*." That works on trust, but it is acceptable in the context of a licence. It says what is expected of you and it doesn't ask you do do anything illegal or immoral.

What I cannot stress enough is that you must not *assume* anything about licences. Your rights and obligations are usually laid out in a cross between plain English and that peculiar legalese that exists in documents such as these. Some licences are

extremely verbose, others very terse. Your abilities are exactly what is stated. Assumptions... well, we all make them. How many people actually bother to read those little licence boxes that appear?

Truth be told I don't always read these things. I find the licences are quite alike, and they have an annoying habit of putting stuff they consider important IN CAPITAL LETTERS WHICH CAN BE VERY DIFFICULT TO READ.

In short, we can summarise as follows:
- A file without any licence cannot really be used. Whether or not you use the file depends upon whether or not you are willing to take the risk.

- A licence, when given, sets out what you can do and what obligations you have. You cannot make any assumptions. If there is no mention of backup copies, you are only permitted the one backup copy provided by law.

Disclaimer: I am **not** legally qualified. Seek advice.
•

And now a quick note for *certain* GNU weenies. You may have already seen this on my website.

Essentially the GPL licence is a licence like any other. The GPL licence is not magical or all-powerful... If you should take my source code (which is not *GPL*) and use it within a GPL program, my code will *not* become GPL (if my licence states that this is not to occur). There will be my licence and the GPL licence and both will need to find a way to co-exist. One licence cannot pre-empt another, even by assumption. Furthermore, even if my licence did *not* prohibit GPLification, it is extremely dubious to apply GPL to code under a different licence without first seeking permission from the author.

An argument *for* Open Source

The *strongest* case for Open Source yet...

That's a pretty bold statement to make. BBC interactive reported that the chief executive of the UK National Archives, *Natalie Ceeney*, has warned that the growing inability to access old file formats is "*a ticking time bomb*" and that we all faced the possibility of "*losing years of critical knowledge*". Even Microsoft's UK head (*Gordon Frazer*) jumped on the wagon to warn of a "*digital dark age*", which is rather peculiar given that Microsoft has long been synonymous with locking its formats up nice'n'tight.

But, as Natalie points out, this is a problem that extends far beyond Microsoft. Who has *WordPerfect* files around? I have a few files written by *XYWrite*. Some of my old files are in *AMIPro* format (a sort-of script, mostly documented).

In the RISC OS arena, there is hope for the *Impression* family, and *Frobnicate* itself stands testament to the ongoing development of *Ovation*, now well into its '*Pro*' version and running on RISC OS *and* Windows. What about those unfortunate enough to have started out with *AcornDTP*?

I make frequent use of an *Acorn PocketBook II* (what I am writing this article upon), however it will give up the ghost one day. Nothing lasts forever, though I hope to be able to eke another decade or two from my little friend!

Thing is, the word processor uses Psion's "Word" format. It has been sort-of documented in the *Psionics* files; certainly enough to allow me to write a mostly-working Word to HTML convertor (it's on my website, if you're interested).

This is all backed up with an ***above***-average range of conversion options within the *PsiWin* software – I can copy a document from my organiser to the harddisc, and translate it into a (Microsoft) Word document at the same time. *Bravo Psion!*

The problem arises if my actual organiser dies, or we reach the day when serial ports on computers are unheard of (parallel ports have mostly gone, serial ports are fast disappearing), and a connection between the computer and organiser is not possible – how exactly am I supposed to convert files?

I store files on my harddisc in the original Psion format, as all conversions will cause loss of data (differences in how styles and effects are handled is one example); and sadly I don't think PsionWin2 understands the concept "*copy from C:\Temp\MyFile.wrd to C:\Temp\MyFile.doc and translate it as you do so*".

In fact, if you are not within the domain of "*My Psion*", PsiWin2 is more or less out of the picture.

There will not be many generic formats. The reason the world has not abandoned everything for the likes of XML is that making XML suit all purposes would be a complete bodge. For things such as desktop publishing, 3D rendering, and stuff dealing with large amounts of binary data, XML is simply not fit for purpose. Try to imagine an XML sparse file!

There will always be a better and more efficient way than the bogosity of having to read, parse, and interpret human-readable information where there should be none. Large data sets aren't designed for people, they are designed to be processed by machine. Is it easier to load and save a 'struct' than to have to output textually and later reparse. So don't waste all that energy making files human readable, clogging up storage devices and network connections transferring all that crap around, then suffer the necessity to "read" the information like a human. Just dump the array to disc, read it back again. The only hard part there is implementing your software on a machine with a different word size/order/alignment so the array is all messed up.

But I'll make you a promise right now: snarfing the data byte by byte and juggling the order (even adjusting the endianess) is going to be easier to code and less grief than trying to "read it like a human".

Consider the following XML code:

```
<?xml version="1.0" encoding="iso-8859-1"?>
<title>datadef</title>
<subtitle><![CDATA[]]></subtitle>
<updated>2007-07-04T11:16:12+01:00</updated>
<content type="adjuncdef">
 <![CDATA[
   <defi 1204>
   <wakaii 48-65-6C-6C-6F-20-4B-69-74-74-79>
   <tek tcd alina 102.4>
 ]]>
</content>
```

If I don't document the meanings of "*defi*", "*wakaii*", "*tek*" and the parameters – then it might as well be a closed binary file format.

So, then. I have just argued that application-specific file formats may in the future be an unknown entity leading to potential loss of information, and I have counter-argued that generic works-with-all formats like XML are no good.

So what the heck *am* I advocating? Well, it is actually quite simple. File format documentation, while very useful, is not entirely likely to be complete or up to date or accurate. Even *I* have found it a hassle keeping documentation in sync with the software, so I can imagine more complex projects would be that much more bothersome.

There is an easier solution.

Open Source Software.

The file format can be completely accurately devised by looking at the code. As it is the code that compiles to build the application, what the code says goes (even if it is at odds with any sort of available file specification). If you wished to write your own software to work with the file format, you could even (licence conditions and language/portability excepting) take the code and use it as-is. If not, at least you will have a solid base for writing your own loader.

Now, before we discuss any problem of wading through code, I feel I should point out that you already need to be a programmer-stroke-geek in order to be able to read a file format specification *and* know what to do with it. :-)

Other opportunities

I'm sure by now most of us have some sort of portable media player, either MP3/WMA or maybe a more fancy model with video playback.

Maybe you have a digital satellite or terrestrial receiver.

You might even have a PDA or GPS Sat-Nav.

As far as PDAs go, the more recent ones are quite configurable, and they have enough memory onboard that soft-loading some derivation of Linux is a possibility, for giving it the ultimate make-over.

Where does that leave media players and satellite/DTT receivers?

This is where open sourcing the firmware would be a great assistance to us merry band of geeks. For the manufacturer adds the sorts of facilities that they think the end-user would want, however the more technically minded end-user will think of numerous ways to expand the device. Examples? For my newest MP3 player it would be nice to "*play stuff in this directory*", or adjustable EQ. For my satellite receiver, how about an easier way to add channels – by name from a list. Include a time-out before reporting "No signal!". Use some *actual* flow control on the firmware download/upload, maybe also with adjustable serial speed. How about a 'hold' facility for teletext (has anybody tried reading *EuroNews*' teletext? could you keep up with it!?!?).

Let's face it, the end-users are going to know what they want more than the manufacturer, because once a gadget has been created, they're onto the next best thing, while it is the end-users who have a day-by-day use of the gadget concerned.

With the firmware being open sourced, and the build tools available (even if a basic command line, as long as it can make something that can be burned to on-board Flash), we can customise the things we want in the devices; fix our own private quirk list (like how come I've managed to crash my Neom `NM329DVD` DVD player *three* times in a week?).

While companies may stand to lose "trade secrets" by releasing source and docs on their hardware, they benefit too. The device will be supported, upgraded, bug-fixed... and they won't have to pay anybody.

We all win!
                                                        •

Mom's page...
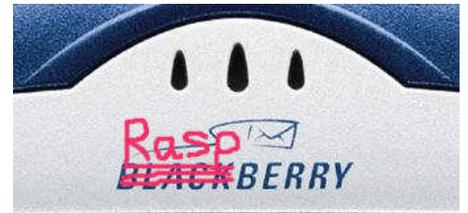
Hello everyone!

Rick has just let me know that Issue 30 of *Frobnicate* will be the last, so this is the last *Mom's Page* as well. Oh, that worked out, didn't it, because . . . today, as I am writing this, is my 60th birthday, therefore I am **OFFICIALLY** a retired lady. It doesn't feel any different, and I'm not certain that the Department of Work & Pensions agrees that I'm now an OAP instead of a Widow, but what the heck. At least there is some sunshine today and I have made it this far in life!

Rick and I were in our little local town this morning (population 2,500) to arrange for two new front tyres on my equally OAP *Renault 5*. Afterwards, we popped into the bar-café. Did you know that it is now illegal to smoke in French bars? Can you imagine that? Of course, neither of us are smokers, so it's better for us, but it really has diminished the clientele. We try to have a pot of tea (tea!) there twice a week. The very nice staff said it was a birthday present today, yum yum.

Rick did not get the job he has been waiting for, for over four months. That was very depressing; the job situation in France isn't good. Presently there is 10% unemployment and, frankly, it doesn't look like Sarko is going to be able to create employment for the French, let alone foreigners.

The only remedy we have is to sell our house. Speaking from the heart, neither of us wants to do that, it's a fantastic old property and, owing to such a mild February, all of the heavy mowing for Spring 2008 has already been done. Two new gardens have been dug out and several packets of salad vegetables are ready to be sown.

But, speaking from the head, it makes a lot of sense to sell a property which really has too much land and way too much upkeep. I truly believe that events occur for a reason: perhaps Rick didn't get the job because he would have fallen out of a tree in a windstorm (lots of wind so far this month!) and broken his leg. Or tipped into the lake and caught not a pike, but plague. Who knows? And maybe we will like our next property so much (heat! running water! telephone! [*broadband!* – Ed.]) that we will look back at this and wonder why we waited so long.

Elma Alexander <elma@elmas-window.co.uk> sent Rick a copy of her lovely poetry booklet "*Take It or Leave It*". The poems are all about nature and are really interesting and well-written. My favourite was Mr Magpie, but why not contact Elma and get a copy for yourself? It's only £5, and 50p of that is donated to the RNLI.

I recently answered a magazine query: "What were you doing in 1968?". Can you remember (were you even born?)? That was a great year to be 20 and living in Baltimore. I was with my first boyfriend, Riale, and although we broke up 18 months later, I still have happy memories. Mini skirts, long hair, incense, bells . . . and Dylan! Ahh.

Well, in mid-March the days are longer, the grass grows, the Primroses bloom, the blackthorn looks like it is covered in white lace, the sun shines hotter (when the rain isn't raining rainier) - and Spring arrives! I wish all of you the very happiest year and who knows, maybe Rick will publish the occasional issue of *Frobnicate* and I can write another *Mom's Page*. Thanks to everyone who has read this. Bye for now.

PS – I still haven't learned to do anything with a computer except to plug it in. Oh, well :-) •

On my 60th birthday proudly wearing the scarf my Australian friend sent

Final Wrap Party

Well, this is it. The *final* "Wrap Party" page. It is not without a degree of sadness as I write this, however the original *Frobnicate* (issues 1 to 19) saw my final years in England and the resurrected *Frobnicate* (issues 20 to 30) saw my first years in France; together spanning a period of my life over a decade. It's been fun, and I hope you all enjoyed the journey!

While the level of political content (or non-geek stuff) has increased as *Frobnicate* matured, I like to think that it is also because I have matured. An increasingly global perspective is necessary these days because so few things are localised. Once upon a time it might have sufficed to put together your latest module patch while the TV news had pictures of some people rioting over food prices out on some little island with a bad economy. Well, the island with rising food prices and a bad economy is everywhere these days. Nobody is rioting in the streets of London... yet. It helps to keep an eye on the situation, be hyper-aware of what is going on. It also helps to look for "ulterior motive" for everything the government plans to help to discern what is really going on, for they will obviously look after their best interests before they look after you... or are you the only person in the country that still actually believes the Retail Price Index?
But, you know, enough of that. You get the point.

Our time together has taken us through numerous changes. First there was *Acorn*, then there wasn't. *Windows 95* was shiny and new (and late) for the first issue, which was a far cry from the look and feel of *Windows 3.11* and is equally as far from the look and feel of today's *Vista*. Ironically, *RISC OS* has barely changed at all. Okay, *massive* work has gone on behind the scenes, but externally, from a GUI perspective, there is not that much between *RISC OS 3.50* (of issue 1's epoch) and the two disparate versions available from *RISC OS Ltd* or *Castle*. You could argue, I guess, that this is because *RISC OS* is stuck in the mid-90s. My counter argument would be, quite simply, that *Acorn* got it right with *RISC OS 3.50*. Again, there was a lot wrong with the OS internally (the task swap method, the 26 bit memory limits, dynamic area bogosity),

but the look and feel of how the system worked was right on the money. My only regret is the sort of stuff I do with *Aiko* is not something I can do with my RiscPC – such as ripping a DVD to DivX, likewise with real-time recording of TV programmes, browsing the Internet with a full-featured browser...
...but there are strengths as well. I have in mind (when I have broadband) to run my personal server on either my RiscPC or the A5000. It will contain an IDE-CF adaptor and a CF card either 512Mb or 1Gb. Low power, quiet, and not susceptible to the sort of 'exploits' that could turn *Aiko* into *Zombie-Aiko* (we're wandering into J-Horror here – cool!)...

We have also seen unbelievable advances in consumer technology. When issue #1 rolled into *Arcade BBS*, and a synopsis was posted on *Fidonet* from 2:254/86.1 it quickly made its way to other bulletin boards. I got my news from *Ceefax*, I watched *My So-Called Life* on a noisy analogue *Channel 4* signal, and I taped it onto VHS. *Frobnicate* was written for *Acorn* machines, and readable only on such.
Fast forward a decade, I'm writing this on a PC (something I never though possible back then!) and watching *Bubble Hits* on a digital satellite receiver, one of around 300 "free" channels available from that location. I have a DVD player that can play old VCDs, regular DVDs, and an assortment of MPEG4 files. It blows me away that a two hour film, in perfectly good quality, is under a gigabyte. In fact, it comes in a smidge over *half* a gigabyte. Can burn it to a CD-ROM in around ten minutes. Or drop it onto a little memory device smaller than a hotel's "complimentary bar of soap". And *Frobnicate*? Part written on an old *Acorn Pocketbook II* and mostly put together on a PC, released in document format (for PC/RISC OS) and PDF format for everybody. So much has changed in the past decade that I'm quite looking forward to what happens in the next!

My very final word? A *massive* thank you to **David Pilling**, **Ewen Cathcart**, and **Glenn Richards** (they know why) and a big big thank you to everybody who has read *Frobnicate*. *It's been a time.* ***Bye-bye!*** •