Benefits of membership

The national club for all users of 32 bit Acorn computers and Pocket Books

- The Club's magazine, 'Eureka', written by members, is published and sent free of charge four times a year.

- Free software to accompany articles in Eureka is available on the Club's FTP site or can be sent to members on disc.

- Free Technical Help Service. We will do our best to solve any problems which you may have, by email, letter, telephone or fax.

- Special discounts for Club members from well–known companies.

- Regional open days and shows are regularly organised by the Club. Other events can be arranged on request.

- Special offers at shows and open days.

- Regional contact lists of other members, available on request.

- Opportunities to get involved in the running of the Club itself.

- School and Affiliate Membership available on request.

- Joining pack includes an extra copy of a recent issue of the magazine and software.

Annual membership £15
Europe £19 and rest of the world £22
The ARM Club, Merton Court, 38 Knoll Road, Sidcup, Kent DA14 4QU
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EUREKA

The magazine for members of

The ARM Club

The RISCOS Encyclopedia

Free for all

Winning games with logic

Issue 60 - 2007 No. 1

Editorial

The editor's comments on the world of RISC OS

One of the most dispiriting things about being the editor of Eureka and a member of The Arm Club is the lack of communication between members. In this day and age what methods of communication do we have? In the 15th century the main communication was by voice so communication was face to face or if you were very rich, and could write, a written communication could be sent. By the time of the Victorians one could communicate by voice, letter and the new fangled telegraph using morse code. The postal service was so good you could expect three or four deliveries per day. In the early 20th century the introduction of the telephone made communication for the masses achievable.

What do we have today? Well, face to face verbal communication, the post, the telephone, email, blogs, chat rooms, newsgroups etc etc. One would think that it would have become easier with all these different communication methods. However for most members of The ARM Club this appears not to be so. A computer club surely exists so that members can pass on information and swap ideas. The amount of information swapping between members using Eureka appears to be approaching absolute zero. Surely someone has some useful knowledge about software or hardware they could pass on to other members? It can be just short snippets or whole articles. It becomes harder and harder to find enough material to fill a magazine. Soon you may end up with some very thin mags.

However there is a ray of hope - a member has emailed Eureka with useful information, so for the first time in three years I can start a letters page! Let us hope it won't be another three years before I get another one.

Your useful knowledge snippet for this issue from the editor is that *!Smartmenu* kills *!Sib2Draw!* Hope to be hearing from you soon even if you want to complain about how bad the magazine is. Happy New Year!

Contents

Fetch!

RISC Bytes

RISC OS news over the last couple of months

Gutenprint 5

The goal of the Gutenprint project (formerly known as Gimp-Print) is to develop high quality printer driver software for UNIX/Linux/MacOS X offering photoreal printing on a huge range of colour printers (most notably inkjet printers, with a special emphasis on the Epson brand).

Since 2004 these printer drivers have been available for RISC OS as well, but the software has moved on enormously since the release of Gimp-Print 4.2.7, on which the current RISC OS port is based. On July 30 2006, a major new version was released for Linux and announced by the development team as follows:

"The Gutenprint project is pleased to announce the first public release of Gutenprint 5.0. This release, which has been under development for over four years, offers improved quality, greatly enhanced functionality, and support for many more printers than our previous version, Gimp-Print 4.2."

Updating the RISC OS port from Gimp-Print 4.2.7 to Gutenprint 5.0 is not trivial because the programming interface of the core print engine has undergone major changes, which means that substantial parts of the RISC OS interface layer have to be rewritten. Once that has been achieved it is likely that future versions of Gutenprint can be integrated with relatively little effort.

The Gutenprint 5.0 porting work has already started and the projected release date is March 2007. You can find a list of printers supported by Gutenprint 5.0 at

http://www.mw–software.com/software/gimp–print/supported.html

Performance and memory requirements of Gutenprint are similar as for Gimp-Print for RISC OS, but thanks to the quality improvements it is expected that the same level of quality as before can be obtained using significantly less memory.

Existing Gimp-Print for RISC OS users will be able to upgrade to Gutenprint for RISC OS by making another donation. Details will be announced when the software is available.

Martin Wuerthner
MW Software
info@mw-software.com

Ancestor+ Version 3

The new version of Ancestor+, the RISC OS Genealogy and Family History program is now available from APDL.

The main improvements and additions for Version 3 are -

* Improved graphics charts, now also includes 'hourglass' charts and 'bloodline only' charts.
* Direct import of GEDCOM.
* New functions to renumber records in the file so that record numbers can approximate the natural order of the people.
* Database has been re-structured to make it more robust and eliminate previous problems with 'soft' links between people.
* A partner can now be removed from a family group without breaking up the whole family.
* Chart 'Layout' files more fully supported and remain correct even after database sorting.
* 'Pedigree' charts can now be up to 7 generations and be tiled to A4 if necessary.
* The 'User definable' fields now each have an associated date to make recording of dated events easier.
* Individual people can now be removed from a chart where they are not relevant.
* User can choose the font used in charts.

Plus a whole host of minor improvements too numerous to list.

For more details of Ancestor+ see

http://www.apdl.co.uk/progs/ancest.htm

RISCOS.org links database and "package management"

A lot of discussion has recently gone on in various newsgroups about package management for RISC OS – and there have been many comments for and against it.

I've just added a new feature to the main search engine at **http://www.riscos.org/links/** which may aid people developing either package management software or for implementing 'auto-update' facilities within their own applications.

The way it works is thus;

If you require a specific module or piece of software for your software, search for it in the usual way, and visit its individual page.

The 'Information' column on the right will show you the unique 'Download ID' for the item (two digit category code, followed by a four digit number). Make a note of this.

In your software you can use fetcher code (such as cURL or somesuch) to fetch the information required directly from the database, automatically stripped of all the HTML by visiting the following URL.

http://www.riscos.org/cgi-bin/linksdb?q=ID&d=x&pkg=x

or in simpler terms, call http://www.riscos.org/cgi-bin/linksdb with the following three parameters:= q = download ID d = x (specific ID information required) pkg = x (fetch package info only).

Thus, as an example, to check the latest version of the Tinct module, you could fetch http://www.riscos.org/cgi-bin/linksdb?q=mo0038&d=x&pkg=x which would return the following plain text info:-
name: Tinct version: 0.13 url: http://www.tinct.net/download/tinct_013.zip

ie. three plain text lines of data, containing the name of the item (so your software can verify what it requires), the latest version listed in the central database and lastly, the direct URL it can be downloaded from.

Therefore developers could check any dependencies they require, search the database to see if a newer version exists and, if so, offer to download the relevant software for the user.

I hope people may find this new feature useful, but more information is available if any developers would like it.

RISCOS.org/links is a comprehensive, frequently updated central database of RISC OS software downloads and represents many months of development in order to provide arguably the best online database of RISC OS software.

PrivateEye 2.00

PrivateEye is a freeware image viewer.

Features:

* Loads Sprites, DrawFiles, JPEGs, ArtWorks, GIFs and PNGs * Can load
  any number of images simultaneously * Provides full control of display
  quality for all formats * Drag–box zooming * Full interactive help.

New in 2.00:

* Viewer windows can gain the input focus.
  Added many keyboard short–cuts.
* Viewer windows can fill the whole desktop.
  Added "Fit to screen" and "Fit to window" image scaling.
* Rotation.
  Sprites and JPEGs can be transformed with any combination of 90
  degree rotations and horizontal flips.
  JPEG transforms are lossless.
 A new dialogue shows an interactive preview of the rotation.
* Progressive JPEGs can now be loaded and displayed.
  JPEGs are now integrity checked when loaded. If they fail the check
  then they‹re passed through a built–in version of jpegtran. This turns
  them into baseline JPEGs which SpriteExtend is happy to plot.
* Luminance histogram info window added.
* "New view": Multiple views on the same image.
* Step forward/back through files in the same directory.
* Automatically sets the file type of recognised but untyped files.
* Tinct support.
* FFG support (can load images using TransTIFF, TransFSI, etc.)
* New PDF format manual.

It's now available for download from: **http://www.davespace.co.uk/**

Films v1.20

This is to announce the release of version 1.20 of !Films, a scheduling program to deal with a busy (cinematic) timetable.

The application may be downloaded from

http://starfighter.acornarcade.com/mysite/utilities.htm#films
and features some major upgrades since the last release: principal among these are the storage of data inside the Choices structure if available, and the extension of the date and time system to cope with the fact that January is later than December(!) and that 5.55pm is within 5 minutes of 6pm – plus a lot of internal alterations to make this as user-friendly as possible. But, as traditional, there are "many, many more changes"; in this case literally many, many more… see History file. It makes extensive use of Martin Avison's !ArmSort application: available from http://www.avisoft.f9.co.uk/

As usual, the application contains an exhaustive and erudite Help file. :-)

Note that the version supplied in this archive contains a simple data file which it will ask to move into Choices for demonstration purposes (to provide some data to experiment with): to avoid this prompt, remove or rename the file !Films.data.!Example

Version 2.02 of !ConvText

The new features are probably of limited use.
• Four new built in commands added:
{ENSURE LEADING BLANK LINE}, {REMOVE LEADING BLANK LINE}, {REMOVE x LEADING LINES}, {REMOVE x BOTTOM LINES} –
New wildcard added: –EOF
See the accompanying notes for more details (StrongHelp manual and History file)
The latest version can always be loaded here:

http://www.riscos.sprie.nl/Downloads/ConvText.zip

In case you don't know what !ConvText is:
ConvText is a little utility that will do Search and Replace actions in any type of file, by means of scripts. These scripts are very easy to create and will help you speeding up repeated replace actions considerably.

WebGallery

Beta 6 (v0.15) of the new WebGallery application is available for the first time as a public download from
http://www.vigay.com/software/webgallery.html

WebGallery is a flexible and powerful utility for generating galleries from directories of images. It can use ChangeFSI to re–scale images and generate thumbnails, before creating a full HTML based gallery of interlinked pages and index files.

Examples of typical galleries can be seen online at http://www.vigay.com/photos http://wildlife.vigay.com and http://www.rosies–vineyard.co.uk/gallery/ which demonstrate the power and flexibility of the web template system.

A huge range of options provide hundreds of permutations of effects that are possible, and a customizable web template system provides even more flexibility for seamlessly integrating galleries into existing websites.

A comprehensive !Help file is included, which includes tutorials and notes.

Feedback and suggestions are welcome before I make a formal public release (and change the version number to v1.00). :–)

distcc port

A port of version 2.18.3 of the distcc client is now available from
http://www.alexwaugh.com/programming/

distcc is a program to distribute builds of C or C++ code across several machines on a network. distcc should always generate the same results as a local build, and is usually much faster than a local compile. For more details see

http://distcc.samba.org/

This port works with gcc on the local machine and the GCCSDK cross compiler on any remote machines.

!LaBella Version 6.10

Version 6.10 (11th November 2006) introduces some new features suggested by visitors at the SASAUG/RISCOS SE Show on 21st October 2006.

LaBella can now accept custom numbering schemes, defined by the user in a simple format. Typical usage would be to produce numbered theatre tickets with both lettered rows and seat numbers increasing as required.

The background colour of the 'paper' on which labels are printed can now be chosen by the user, shown on screen and the colour(s) saved for future re-capture. This feature is mainly intended to help with the label design colour contrast when the printer is going to be loaded with coloured paper. Normally, it is expected that the shown 'paper' colour will not be printed but an option is provided to include the colour when printing, if required.

A minor bug, potentially affecting CSV files with very long fields, has been fixed and there is better error-trapping if a field with more than 255 characters is encountered.

A previously unknown helpful feature has also been discovered! An address held in !Organizer can be sent directly to !LaBella's Edit window, making it easy to print that address to a label straightaway – or to construct a new CSV file of several Organizer addresses.

Updated Text, Impression and Ovation Manuals are also available.

!LaBella is a very popular and comprehensive *freeware* label-printing application for computers running RISC OS.

Basically, it allows text from CSV/TSV-format files to be printed onto labels, with optional added graphics.

The text font/colour/indent/justification/line spacing can be set for each line independently and there are many other features – including sequential numbering, text wrapping, sideways printing, blank line suppression, double-quotes suppression, text-file editing on-screen, graphic scaling/shifting, printing preview and more.

It offers four basic label shapes for designing (round-corner, square corner, CD and envelope). Label designs for several common self-adhesive label sheets – and cheques – are included, plus several example CSV files and graphics.

!LaBella is authored using the *freeware* 'Dr Wimp' package – also available from the web-site.

http://www.rayfavre.me.uk/dwapps.html

BeebIt 0.59f18ß released

BeebIt is a freeware BBC Micro computer emulator for RISC OS versions 3.00 and above. It emulates the Acorn BBC Model B, BBC Model B+ and BBC Master 128 computers.

This release has been possible due to some great work done by James Lampard. He has completely rewritten the 6502 CPU engine, optimised various areas and added some new features. It is a test only release but should perform well on all RISC OS machines running RISC OS 3.50 and above.

The following improvements have been done since 0.59a.
Rewritten 6502 engine which can be up to 20% faster.
Supports full Op7 (previously it was just a subset).
Requires at least an ARM6 processor (ie RISC OS 3.50+).
Clicking select on the Icon to enter BeebIt, no longer shows up as a joystick butt on press.
BeebIt64K not supplied, it can be better implemented as a separate program
JGH's external 6502 interface is now supported (not fully tested though).
New small !BeebIt sprite.
Correctly implements CLI/SEI/PLP so Empire Strikes Back will run
You can get the latest version from

http://homepages.paradise.net.nz/mjfoot/ under the BBC link.

RegEx 1.06 released

RegEx is a RISC OS module which provides the functionality of the GNU regex library via an SWI interface. It was written and formerly maintained by Neil Bird. Stefan Bellon now maintains it. RegEx can be downloaded from **http://www.sbellon.de/sw—modu les.html**

Bugs fixed in version 1.06:
* Fix crash when calling RegEx_CompileFastmap

Client memory allocation for the fastmap was not done in the module and therefore RegEx_CompileFastmap just did not work (and most likely never did). Everyone using an older version of the RegEx module to should upgrade to the latest version.

Thanks are due to Martin Avison for reporting the bug

ARMalyser version 0.58

Enhancements and fixes since last release

* ELF executable and library file format support added

* Improvements to register value following

* Improvements to data marking for single & block data transfer instructions

* Jump table detection added for LDRxx PC,Rm

* Jump and Branch table range detection improved

* More value comments used for assembler data processing instructions

* Data Array detection improved

* Backtrace support fixed

Background information

ARMalyser is an ARM code analyser that understands RISC OS executable, module, utility, object and library formats. It can output disassembler or ObjAsm assembler styles, in plain text, fully hyperlinked and syntax coloured HTML, XML, or custom formats for import into Impression, TechWriter and Ovation Pro.

It has extensive analysis features to detect problems that may be encountered when converting code to 32 bits, and to highlight performance issues on different ARM variants. The assembler output may be used as a basis to produce 32 bit versions of code where the sources are not available.

It is available for RISC OS with a desktop front end, and command line versions for Win32, x86/32 and x86/64 Linux. Also included is a RISC OS version built with GCC and UnixLib which does not require a 32bit SCL.

The ARM Club Free Software : **http://www.armclub.org.uk/free** The 32 bit Conversion page : **http://www.quantumsoft.co.uk/druck**

!meDDLe Version 2.10

A new version of the freeware application !meDDLe (Version 2.10 1st December 2006) is on the web-site at:

http://www.rayfavre.me.uk/dwapps.html

The new version adds the ability for the user to choose an Impression/OPro Style which will be used to create HTML external links in the output HTML pages. Both URLs and email addresses are handled correctly.

Also, the ligature fi/li and ellipsis have been added to the list of 'entities' which are handled specifically.

Some minor cosmetic and user-friendliness changes have also been made.

The text, Impression and OvationPro versions of the Manual have been correspondingly updated – as has the DDL file of the Manual used in the Example folder.

!meDDLe is an application to convert OvationPro DDL documents into HTML – including 'embedded' pictures.

On dragging in a DDL document, !meDDLe extracts its 'Styles' and presents a list of them so that the user can – if he/she wishes – 'map'

any Style to any one or more of the common HTML text-altering codes e.g. Style "Heading" might be mapped to HTML code "h3".

There are other options:

• to get rid of headers/footers;

• to decide how the output is to be split into separate HTML 'pages';

• to choose a Style to be used for starting a new HTML 'page' or to trigger the placing of an HTML marker

• to choose a Style to trigger the placing of an HTML external link;

• to add a Contents page with live links to each 'page' and marker;

• to include/exclude the extraction and referencing of pictures;

• etc.

The output comprises a series of HTML 'pages' plus (if chosen) a picture folder. All pictures are converted to PNG format and those pictures which are 'embedded' will be referenced to appear in the right place on the appropriate 'page'. (Non-embedded pictures will still be extracted and it is then a moment's work to add a reference to the output wherever the user wishes.)

Each 'page' contains a link to the next and previous 'page' (and back to the Contents, if chosen).

The Contents page will contain (at least) links to each output 'page' and can, if chosen, also contain correctly indented sub-links to user-chosen marker positions e.g. markers at each occurrence of the sub-head Style.

As an example the application includes a DDL document of its own Manual with a step-by-step guide on how to produce an HTML version of the Manual in various forms.

Passwords

Following the release of a 32 bit neutral version of Wimpbasic, an interim version of Passwords has been released.

The new version has no new functionality, and in fact has one feature disabled for the time being. It does however now run on all machines from RISC PC, to A9home.

Passwords is a small utility for you to keep your internet website passwords in a secure environment. It uses a simple encryption code so that all of your passwords are kept safe.

The new version is 32bit neutral, and hopefully fixes the memory problems that some users have encountered.

The download, which is public domain, can be downloaded from the address

below. Please ensure the instructions with regard to backing up the old version are followed before installing the new version.

The download also includes the latest version of Wimpbasic modules from APDL.

SDLThrust game

The thrust–0.89f game has been converted to use SDL and run on RISC OS.

The object of the game is to lift the Klystron Pod from the bottom of a cave and return it safely to space. The Pod is very heavy (compared to the ship) and this makes it tougher than it may seem.

It's been tested it on an Iyonix and it should run on any machine with RISC OS 3.6 or above.

The game can be downloaded from:

http://alanb.drobe.co.uk/sdlthrust/index.ht

Version 0.20 of SmartMenu is available

A new version of SmartMenu is available at: http://www.theochem.ru.nl/~dtanis/riscos.html

This new version fixes the problem

that when running Aemulor Pro, SmartMenu didn't work anymore with some apps.

SmartMenu is a module which ensures that submenus are opened to left when you have no more desktop space have left to open a submenu

Free upgrades for all versions of VirtualAcorn

VirtualAcorn have released new free of charge upgrades to all versions of VirtualRPC.

These upgrades are designed to support the forthcoming RISC OS 6 (Select 4) and to deal with issues reported by some users.

Upgrades for VirtualRPC-SE and VirtualRPC-Adjust

These upgrades resolve the problem, reported by a couple of users, of not being able to print from RISC OS 4.xx after installing the December 2006 upgrade.

Upgrades for VirtualRPC-SA and VirtualRPC-AdjustSA

These resolves the following problems reported by users:

Incorrect handling of the F1 key. Problems when a hardware scroll is issued when using RISC OS 6.

All of these upgrades can be obtained from the downloads section of the VirtualAcorn website.

SpamStamp 1.05 released

New in this version:

* Bugfix that solve some problems with some mails where SpamStamp gets in an endless loop.
* SpamStamp has become better at detecting empty messages without subject and to-headers.
* Update to the FAQ section in the manual.

You can find the new version here:

http://home.c2i.net/jjvdgeer/risc os/spamstamp.html

For those that don't know: SpamStamp is a program that attempts to detect if a mail is spam or not. Some headers are added to the mail with the result of that check. Your mail client can then decide what to do with the spam.

Deciding whether mail is spam or not is being done by bayesian filtering techniques (see

http://www.paulgraham.com/sp am.html).

This means that you do not need to set up all kinds of rules, but the system figures it out by itself. It does this because every time it makes a mistake, you tell it that it took a wrong decision. This then increases SpamStamp's ability to detect spam.

KlikMacro

Ian Clark writes

Ages ago I did a rewrite of a program called KlikMacro, by Mike Hobbs, which is a user definable macro execution system. Offering an onscreen menu allowing a definable sequence of keypresses to be executed, optional customisable on an application by application basis. The idea was to develop this into a commercial product.

However, this never happened. :(

Anyway, after years spent languishing on a dusty CD backup of my RISC PCs harddisc I thought it might as well see the light of day, in the vain hope that someone finds it useful.

So, here it is in all it's unfinished glory (well, ok, it's mostly done, but there's a couple of bugs in it) released under the GPL version 2, hopefully someone will make use of it.

http://thejolly.demon.co.uk/~ian/sw/KlikMacro_321.zip

if anyone wants to carry on then feel free, please let me know if you do. :) (There's an e-mail address in the ZIP)

BTW, it's been a long time since I've really dabbled with Acorn stuff so that archive may not be the best, although it was created with SparkFS under RedSquirrel so it should be ok.

The RISC OS Encyclopedia

Rebecca Shalfield

T he RISC OS computer platform is suffering from a lack of readily available information either in printed form or on the Internet. Sometimes, the required information on a software/hardware supplier or one of their products or instructions on how to do something can be found via an Internet search engine, but what a painful and time-wasting experience it is. A huge number of links from, say, Google are either dead (the web site is no longer there), plainly out of date (although the site has been updated and rescanned, the old entry from a previous scan still remains in the search engine's index) or just simply not applicable to RISC OS (during a previous scan, the web site did refer to RISC OS but does no longer); although many RISC OS-related web sites have been updated since Acorn days, Google and other search engines are doing us no favours by leaving old entries in their index even though a particular web site has been rescanned and reindexed. Search engines such as Google are supposedly meant to make life easier for us by helping us to quickly find a required web page, but if they can't be bothered to remove dead links, then their usefulness is called very much into question. Granted, Google is extremely fast but the quality of the links it returns can be very poor. Google is quantity not quality; RISC OS and its users deserve quality not quantity.

The project I undertook for RISCOS Ltd quite a few years ago now, The RISC OS Products Directory, was an early solution to the problem of finding information on hardware and software providers and their products, but it very quickly became out-of-date simply because it was impossible for one person to keep it up-to-date at a time when the RISC OS scene was in a state of constant change with suppliers jumping ship and products disappearing or moving to a new

supplier. The program that programatically generated the site was written at a time of slow connections to the Internet, no Broadband and almost no hope of hosting your own web server at home. Over time, the program became unmanagable simply because it was written in BBC BASIC (I wasn't prepared to move to C and hadn't discovered Python yet!).

A year ago in December 2005, I created a more up-to-date version of the RISC OS Products Directory, risc-os.net, that unlike the earlier site, could be updated remotely by persons other than myself. The program, written in Python, featured a number of innovative ideas not found on other RISC OS-related products directory web sites such as automatic checking of URLs to ascertain whether they actually existed, were relevant and up-to-date (something I couldn't have done on the earlier site).

One additional thing I tried to do with risc-os.net was to only provide links to up-to-date sites that had a copyright date within the last three years thus ignoring all those RISC OS-related web sites that seem to think that Acorn Computers still exist (and before you say they do, I don't recognise those box shifters as having any connection to our Acorn Computers).

One year on, it is clearly obvious that the risc-os.net web site too has failed. It possibly failed because the site was seen as yet another RISC OS products directory web site in an already over-populated market (e.g. productsdb.riscos.com (which it was meant to replace), riscos.org, riscos.net (now out-of-date), etc.). It also suffered due to being announced before the first phase of development had been 'completed' and before I had 'got to grips' with running my own RISC OS web server from home. With the site hosted on a RISC OS web server, it meant that certain facilities common to web sites hosted on other platforms simply couldn't be utilised as the required interactions between software products simply do not exist on RISC OS. I am referring here primarily to calling Python scripts from a web page or embedding Python scripts within a web page (something you can do on Windows but not, unfortunately, on RISC OS).

Another problem with the various RISC OS product directories is that no single web site features all the records. I (and many others) believe that what the RISC OS Community needs is just one database of RISC OS products. As it is clearly obvious to me that the various RISC OS-related products directory web sites do not want to share their data or probably, more correctly, can't be bothered to implement facilities to allow their data to be shared (despite me allowing the risc-os.net data to be downloadable from the site in eXtensible Markup Language (XML) format) and the various Internet search engines can't be entirely relied upon, a radically different approach is required. Rather than trying to get all the 'central stores' sharing their data, why not devise a scheme that does away with all the 'central stores' in the first place.

One other thing that is missing from the RISC OS scene is a complete glossary of computer terms as they relate to RISC OS and instructions on how to do things such as setting up your Internet connection, programming, etc. I know that Paul Beverley/Archive started something along these lines. The various RISC OS magazines are largely good but tend to keep repeating the same old beginners' tutorials.

One other thing wrong with a lot of the RISC OS products directory (and I am extremely guilty of this) is that you are presented with information about products which you have no interest in just because they appear alphabetically next to a product you are interested in.

An early eXtensible Markup Language (XML) template for RISC OS-related software/hardware providers and their products was devised for the risc-os.net web site but the functions to decode such a file were never fully incorporated into the program itself. Perhaps no one was interested in using such technology because there wasn't a utility to programatically generate or verify the XML code. Perhaps the XML file format was seen as proprietary; something I am keen to avoid this time.

The radically different approach I am not just proposing but have actually implemented is a RISC OS-specific database in

XML format distributed throughout the Internet and exclusive to the RISC OS Community. Each XML file, which must be named riscosnet.xml, would be placed on a web server be it your own or your ISPs. Such a file might contain records about an organisation and its software and/or hardware products. Unlike the current RISC OS-related product directory web sites, there will be no central database. Each organisation will maintain their own smallish riscosnet.xml file placed on their own web server or ISP's web space. Genealogy has the GEDCOM file format (although their XML-based replacement was frowned upon); together, we can ensure that RISC OS has the riscosnet file format. I want the XML-based riscosnet.xml file format to be proprietary to the RISC OS Community but not to me personally.

I am envisaging that hardware and software providers would want to generate and retain ownership of an appropriate riscosnet.xml file for putting onto their own web site in order to provide up-to-date (well, up to, say, six days old) and entirely correct information about themselves and their products. This riscosnet.xml file could also be used to generate an HTML file on your web site when modified via a suitably-written XSL file; with some web sites on the Internet migrating from HTML to XHTML to XML, any riscosnet.xml file you develop will be more useful than you might initially think. If certain pages on your web site are programatically generated 'on the fly', such a riscosnet.xml file could be your database file.

Each riscosnet.xml file might also include records explaining computer terms from a RISC OS point of view or provide instructions on how to do a number of things. The file could also be a tutorial for your favourite computer programming language where each record explains a different keyword with example source code.

As each riscosnet.xml file is read afresh at regular intervals, the information it contains is always up-to-date. The exact interval between downloads of a particular riscosnet.xml file is defined in the <updateinterval> element within the <metadata> section of the downloaded riscosnet.xml file itself; this empowers the owner of a particular riscosnet.xml

file as they are in complete control as to how often their riscosnet.xml file is downloaded.

My implementation consists of an application called !RiscOsNet which can be both used to generate a riscosnet.xml file from a specially formatted directory structure in the requisite XML format and search for and display matching records. Any records matching the entered search criteria (which would be in the form of a regular expression) would be intelligently formatted into one single HTML page which is then presented to the user via their web browser. Please email me if you would like a copy of !RiscOsNet; it will be emailed to you after 31-01-2007. You will need to download Python to run it. Please email me if you would like a copy of the specially formatted directory from which the riscosnet.xml file at www.risc-os.net was generated.

I am envisaging that most of the XML elements within the riscosnet.xml template file will be optional. A list of the mandatory ones will be published at the end of January.

Once there are hundreds of riscosnet.xml files residing on RISC OS-related web sites throughout the Internet, a search for a required piece of information is obviously going to become very slow, especially as no indexing is initially envisaged, but as it is not uncommon to spend a whole hour manually trying to find such information via Google and downloading a huge number of almost useless web pages, the wait will be worth it especially as once the search criteria (in the form of a regular expression) has been entered, the search process is automatic (in fact, the search can be going on in the background whilst you get on with something more interesting), the results returned to you are genuinely RISC OS-specific and the results are intelligently formatted into one single nicely-formatted HTML page on a single subject for you to print out or save to your hard disc.

To speed up an individual search, the contents of each riscosnet.xml file will be saved to your hard disc (just point the <RiscOsNet$DatabaseDir> system variable to your chosen location; this defaults to the Scrap directory). If the version stored on your hard disc is younger than the file update

interval period, that version will be used rather than downloading the file again. When the stored version is older than the file's update interval period, the file is re-downloaded and your hard disc version updated.

For those without an Internet connection (or at least not a permanent one), the various riscosnet.xml files could be periodically collected together and supplied on CD-ROM; just point the <RiscOsNet$DatabaseDir> system variable to your CD-ROM drive.

Incorporated within each riscosnet.xml file will be a section documenting all the data providers known to the organisation hosting such a file - in other words, links to further riscosnet.xml files on other web servers. As !RiscOsNet runs, it will read such information out of each riscosnet.xml file and thus discover new hosts to go and search. You can think of this as working like a chain letter where one riscosnet.xml file leads to, say, five further riscosnet.xml files which lead to, say, 25 further riscosnet.xml files and so on. Incorporated inside !RiscOsNet is an initial riscosnet.xml file that just contains information about those data providers known to me at the time a particular version of !RiscOsNet was released. This file kicks !RiscOsNet off until other data providers can be found.

With hundreds of riscosnet.xml files residing on RISC OS-related web sites throughout the Internet, a search for a required piece of information may yield multiple records on the same subject. To speed up our searches, we need to keep each riscosnet.xml file short and concise. If one of your records is a duplicate of someone else's, you need to ask yourself whether your record is better than or provides a different view to the other person's record; if your record is not as good or provides the same view, your record is redundant and should be removed. The 'redundancy' attribute to the <record> element allows the owner of the record to have one of their records declared redundant when a record with the same title appears from the specified data provider.

Whenever a record is displayed in an HTML page, the web site from which the record came is clearly shown. This gives

the data provider the credit they deserve, makes them feel proud and hopefully makes them want to retain ownership of the record.

It might also be nice to view only those records added in, say, the last week. By the use of a regular expression applied specifically to the <correctasat> field, you would be able to pick up just the latest records from each riscosnet.xml file; such technology could be used to programatically generate the news pages of a RISC OS 'magazine'. An RSS feed achieves something similar but the format of an RSS file is just not extensive enough.

An entered regular expression might be one of the following:

Regular Expression:

Matches With:

(?i)Risc.*?Os

    * RISC OS
    * risc os
    * RISCOS
    * riscos
    * RISC-OS
    * risc-os

On a search over the whole of the Internet, this would also have matched with risc/os, but no such entries will exist in our riscosnet.xml subset of the Internet.

I am envisaging that !RiscOsNet will be the first of many such applications for RISC OS to generate and read such riscosnet.xml files. I encourage everyone to develop an alternative product that basically achieves the same thing - either to generate an XML file in exactly the same format (although I expect this to evolve over time) or perform a search on such files and display the results to the user. If you have any comments to make about the XML format, please email me immediately. As everything is dependant on this template being pretty much right from the beginning, I wish

to finalise a version 1.0 by the end of January 2007 - please don't let this format become a moving target otherwise the whole scheme is in jeopardy!

If you develop and deploy your own riscosnet.xml file and its URI is not in the dataproviders section of the riscosnet.xml file within !RiscOsNet itself, please email me with your riscosnet.xml file's URI and I'll add it to the list. If you would like us to develop an initial riscosnet.xml file for you, please do not hesitate to ask.

The huge riscosnet repository that we will hopefully have in a year or two's time will be invaluable.

Timetable

2007-01-31

riscosnet.xml version 1.0 file format to be finalised. The mandatory XML elements to be announced. DTD for riscosnet.xml to be developed.

2007-02-01

!RiscOsNet version 1.0 to be released.

2007-02-28

RISC OS Products Directory and original www.risc-os.net data to be added to riscosnet.xml file.

2007-03-31

A riscosnet.xml file programatically generated for each supplier using data formerly from RISC OS Products Directory and original www.risc-os.net web site.

2007-12-31

"Data Providers" without a riscosnet.xml file will be removed from the dataproviders section of the riscosnet.xml file supplied with !RiscOsNet.

The riscosnet.xml file format can be used to store a number of different types of record:

Absolute File
Advertisement
Announcement
Application
Article
BBC BASIC Program
Book
Book Information
Book Publisher
C Program
C++ Program
Computer
Computer Manufacturer
CSS Code
Defected Computer Manufacturer
Defected Hardware Product
Defected Software Product
Defunct Computer Manufacturer
Defunct Hardware Developer
Defunct Hardware Product
Defunct Software Developer
Defunct Software Product
Distributor
Event
Filetype Information
For Sale
Glossary Entry
Hardware Developer
Hardware Product
HTML Code
Instructions
Magazine Publisher
News
PCI Card
Podule Card
Python Code
Relocatable Module
RISC OS Itself
RSS News Feed

Service
Service Provider
Software Developer
Software Product
Star Command
Stock Control
Support Group
SWI
User Group
Virus Nofication
Wanted
XML Code

I am envisaging that a number of RISC OS web sites will spring up centred around the data obtained from the various riscosnet.xml files, perhaps specialising on certain information (e.g. filetypes) and presenting it to the user in a totally different way to !RiscOsNet.

The 6000 or so records from the RISC OS Products Directory and original www.risc-os.net web sites will be converted into a riscosnet.xml file in the very near future; some of this work has been done but not all fields appear in the XML file yet.

If you are still unsure about this scheme, I ask you to monitor your web server's log files in the coming months to see how many people are trying to download a riscosnet.xml file from your web site. Once you know that there are hundreds of RISC OS users that could have downloaded such a file had you generated one, you might consider generating one!

Rebecca Shalfield
Hypertour Software

(for the latest up to date information in this article go to

http://www.risc—os.net)

An A9home - first impression

Kevin Wells

Having had my A9home for about 6 months here is a quick write up on what it is like.

Basically it is like a very small fast RISC PC, an idea of speed is to compare Firefox2 on the A9home with Oregano2 on the RISC PC.

Oregano loads in quicker, but when it comes to rendering web pages Firefox is quicker, and does a better job of rendering pages.

Display wise:

I have the screen display set to 16 million colours with resolution of 1280 x 1024 whilst the RISC PC has 32 thousand with resolution of 1024 x 768.

Which makes can make a difference when editing multiple files or having lots of windows open at the same time.

Looks of RISC OS 4.42

It looks and feels very much like RISC OS 4.39 (Adjust), if it was not for the better screen display and the different switcher icon you could easily mistake it for RISC OS 4.39.

In fact if you already use 4.39 you would be very familiar with it and get to grips with an A9home straight away.

Usage

My main use of it is developing php pages with the excellent

Webjames and writing my own software.

With php the speed increase is a boom especially when using feeds from multiple sites, like the news page for the Invicta RISC OS users group: **http://irug.kevsoft.co.uk/news.php**

All my latest software is done on the A9home over the RISC PC as with the better screen display I can have multiple windows open and copy code from one app to the other easier and see code on my other applications to help jog my memory.

I think that it would not be too hard for some one with the right technical skills to turn an A9home into a laptop, by using briefcase to put the computer into, getting a small keyboard plugged into it, and a small LCD monitor and having a battery pack fitted to the back of the computer, or even on top.

The small size of the A9home means that it is very portable, in fact I have taken mine to the Invicta RISC OS Users group a few times, where it was reviewed in an earlier edition of this magazine complete with pictures.

It is probably the only computer that can be turned from a desktop into a tower whilst still in use, just by turning it on it's side, in fact when I mentioned that to Advantage6 at the Midlands show, they turned it on it's front so that is three ways you can have it.

One thing at the moment it does not do is remember settings to the !Boot, so it when you restart or turn it on it goes to the default.

Run at startup works as normal, so you could have an obey file run at start up for your settings until the fix comes out.

Printing does not work at the moment unless you use some of the modules from an Iyonix, but printing should be sorted in a later release.

There is a mailing list for the A9home as well and questions seem to get answered quickly.
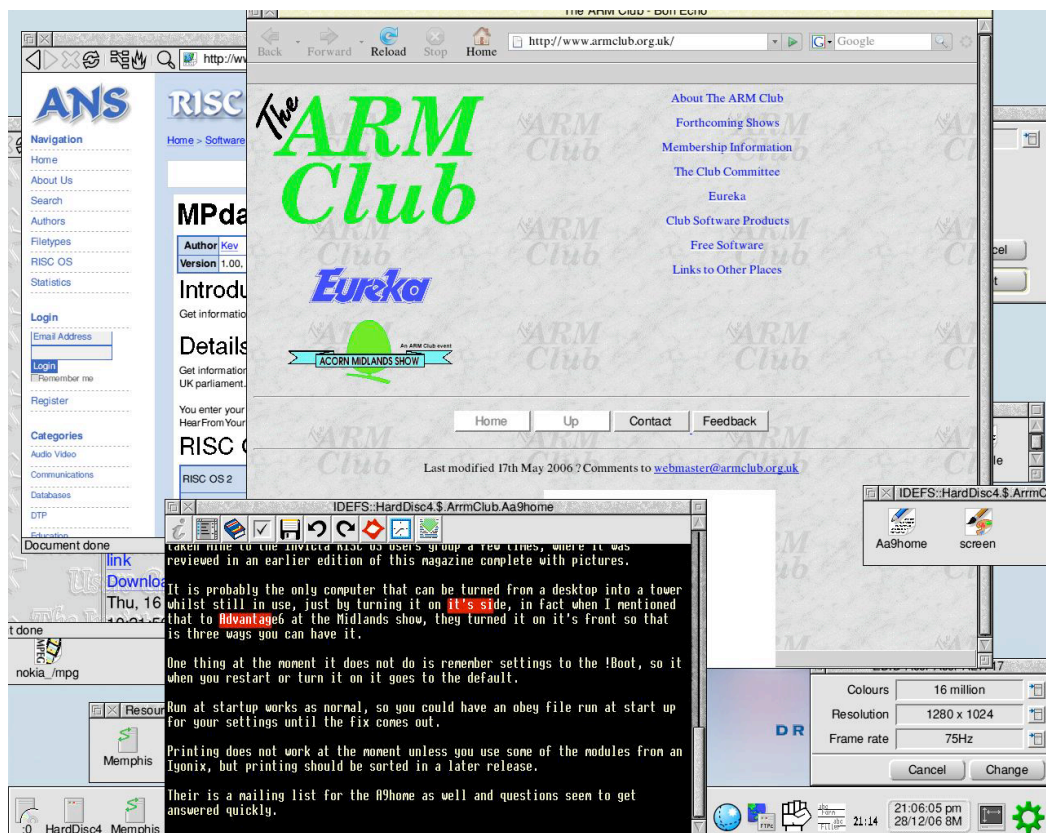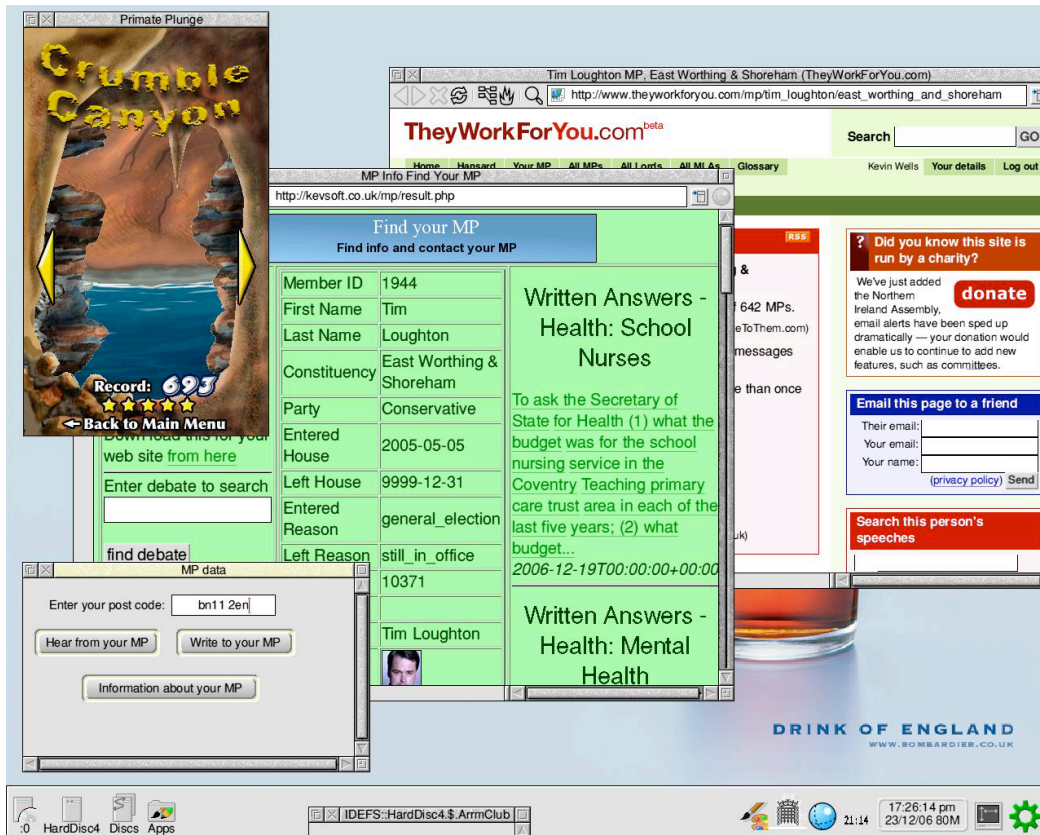
Some A9 screen shots

Letters to the editor

From Ray Curry by email. Subject: Unipod - article in Eureka 58

I was reading with interest an old copy of Eureka (No. 58). The article by Ralph Sillett on the Unipod.

I too have a Unipod in my RiscPC and use all the functions, LAN, USB and IDE. It works well. As there was no follow up article in Eureka no. 59, I thought I would comment on the problems Ralph was having with the USB port.

I assume that Ralph consulted the Unipod documentation and put an appropriate entry in the Unipod "otherdevs" file as explained in the "massfs" "NewDevices" help file. This procedure has worked for me on all the USB devices I have tried.

I too have found that if I use a USB memory stick I can save and read files I put on the USB memory from the RiscPC and I can also save and read files to it from a Windows PC. However one machine will not read the files the other machine has put on the memory stick although the used/free space is reported correctly.

Someone explained to me that it was because each machine is writing the file in its own filing system format. Therefore the other machine cannot read a foreign filing system format and so one PC cannot see the files written by the other machine (if that makes sense).

One way I have been able to transfer files is using a Compact Flash card (as in digital cameras)and a USB multi card reader. The Compact Flash cards are formatted in Windows DOS format. Therefore a Windows PC will read and write to them. Also the RiscPC sees the DOS formatted card and using the

inbuilt DOS filing system will also read and write to the card in DOS format. Therefore files from the Windows PC can be read by the RiscPC and vice versa.

I assume any other memory card that has to be formatted as a DOS disc drive would behave in the same way. The problem is identifying cards that are formatted rather that just straight memory devices.

I hope this is of interest, and you can publish the info or possibly pass it on to Ralph Sillett as it may be of use to him.

Regards

Ray Curry.

RISC OS User Group of London

On 19th March, Charles Hope will give a talk at ROUGOL entitled "My Contribution to the BBC Microcomputer Project – And Other Stories", with a slideshow on his MicroDigital Alpha portable.

ROUGOL meetings take place on the third Monday evening of every month, upstairs at The Blue-Eyed Maid Public House, 173 Borough High Street, London SE1 1HR, starting at 7:45pm. Meetings benefit from video projection, wireless broadband internet access, and a bar and restaurant.

Admittance is free.

RISC OS User Group of London, info@rougol.jellybaby.ne

Free for All

Andy Burgess

More PD software kindly brought to your attention by Andy Burgess

Charges

I stumbled upon this program while looking for something else – something I often seem to do! It professes to be able to keep track of jobs and the time spent on them, which indeed it does do. It's not truly shareware the full version costs £15, but instead the demo limits you to an hour and a half of tracking, before it stops helping. The paid-for version doesn't. I thought I'd find it useful – as I'm not good at logging my time for a job.

It is good in calculating time for a job. Once the job has been selected, a timer records the time spent on it. The program as I played with it could display either the job name or the duration, but I preferred to have the job name displayed.

If you're recording time for a single job it's great! If you're recording time for multiple jobs, the interface is not as easy to use as I'd have hoped. I don't like to criticise RISC OS software (especially one that potentially could be very useful to me), but the one thing I found really, really frustrating about this software was switching jobs. It was this single fact that dissuaded me from actually buying the full thing.

My feeling was that !Charges should be able to switch jobs from a couple of mouse clicks, but no – you have to do menu-Job Manager-select drop down job-Restore job. I felt

it would be a lot easier to be able to select it straight away from a menu click.

WindOpen

On occasion I've wanted to *quit programs when they don't have a task bar icon.

I failed in finding a program to do this, until I had a look on our very own ARM Club free software page. There, the program entitled WindOpen seemed to fit the bill. I downloaded it and tried it. The syntax looked a bit complex for me as I didn't necessarily know what the relevant task name was. I ran the module, and got help with the following:

*help windopen

for a list of commands.

In the absence of a command line task list (or maybe I haven't understood the commands enough), I opened my icon bar Task Display, and picked a task running on my icon bar – that I don't always use. In this case it was Warm Silence Software's (commercial) LoadMaster.

I issued the command from my F12 star command prompt:

wo_Removetask loadmaster

Pressing return took me back to the desktop, and the LoadMaster icon had gone. I picked on !Edit next and prepared to kill it from a Zap Task Window, with the task display window open. I issued the command:

*wo_removetask edit

and pressed return. Instantly "Edit" disappeared from my task window, and the text of this article, which I happened to be writing in !Edit at the time was lost as the window closed! Doh! The Task Window in !Zap remained open of course!

Open files in a different application

You can also use this program to open files from the command line, as if like double-clicking, but opening an unrecognised file type into !Edit say. You have to already have Edit running – it won't start it like double clicking. So, with !Edit running, I issued the following:

*wo_openwind edit $.cv2005/doc

This had the result of opening my 2005 CV (A Microsoft Word document) into !Edit. This is the equivalent of shift double clicking this same document on RISC OS (I have a tendency to do this on Windows, and it opens all files I accidentally select – oops!).

To start a new task – if it's not already running, I found I could use the ensuretask command.

*wo_ensuretask edit *resources:$apps.!edit

This is a program that's so useful I've immediately put in my !boot sequence in the !Boot.choices.boot.tasks directory – so it runs on start up! The only downside (and it's just being picky) is the spelling in the help for it! Otherwise it's excellent! Well, done ARMClub and DEEJ technology PLC.

I now can create cleverer Obey files to do great things!

Just a little command line tip – in case any members weren't aware (I found this out by watching my friend who was a RISCOS guru, before he went to 'the other side'):

To copy an entire path and filename into a task window – just hold down shift and drag the file to the window. You can also use this to enter the full path of a file into an !Edit or !Zap window too.

In Windows, you can even drag and drop it too (but don't shift click)! Windows even adds quotes (required) for you too – something useful from that OS for a change!

SFTP

I need to do some work with FTP on my Unix environment, and used its FTP client with the minimum of fuss. I had already got an FTP client (FTPc by Colin Granville), which is very good, but I wanted one with a command line facility, which this does not provide. Once I'd discovered the existence of Carol Carpenter's sFTP , I tried to track it down. Not an easy task – all the links pointed to a dead website. I tried www.drobe.co.uk for 'downloadable files', and found it. I downloaded the 281K archive and unpacked it.

Running the app gave a front end on my desktop which I didn't really understand how to use. I ran the Absolute file sftp from within !sFTP and could use it with the RISC OS command line (the server name has been changed to 194.99.999.99 (this is not the real server name)):

open <servername

This gave me:

Resolving.....[194.99.999.99] Trying to connect...
Connected Waiting for reply...
Timed out waiting for server Timed out on the select in <connect_GetCtrlReplyError replying to initial connection.

I then tried ...

sftp <servername>

... and got ...

Resolving.....[194.99.999.99] Trying to connect...
Connected Waiting for reply...
220 Welcome to Orpheus Internet FTP Service Login :

I entered my user

331 Please specify the password.

Password :

I entered my password

230 Login successful.
200 Switching to Binary mode.
257 "/"

On RISCOS, "ADFS::harddisc4.!sFTP" is the current local hard disk directory *ftp>

On FTP the commands are very UNIX/Linux – like, and there follows a selection of them:

ls lists files on the server ls -l list files in long format (a la unix) on the server lls lists files on the local machine lls -l list files in long format (a la unix) on the local machine

pwd – (Process Working Directory) equivalent to *cat on RISCOS – applies to remote machine

help – probably the most useful command! You can also do the following...

help get – to find info on specific commands (in this case the "get" command).

get – uploads a file from your hard disc; put – downloads a file to your hard disc

You can also connect within sFTP in this way:

*ftp>open <servernameand enter your user login and password as above.

I couldn't get it to work if I'd set up a profile! I had to delete the data file at !sftp.config.profiles to get it to work again.
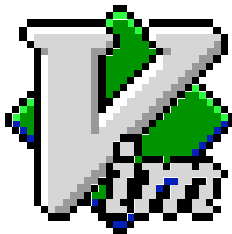
Additional information on VIM (reviewed earlier)

I have been developing my website, and using VIM on my A7000. I discovered a nice feature within VIM for editing web pages. It syntax-colours your document, adding a useful feature for any kind of <bbolding. The text following the <bt ag is underlined, and continued till you hit a subsequent </bend bold tag. Very useful to see if you've forgotten one. Also any quoted text is highlit by pink on white text, again showing mismatched quotes, easily.

If you have any code like <tableand want to find the closing </tabletag, you can append or replace the initial opening <tablewith {<tableor {, and the closing one by }</tableor } (the position of the brackets is not critical). If you do this you can then use VIM's match brackets function (designed for C programs really), by just pressing the % symbol on the relevent line containing the bracket, VIM will take you to the matching bracket. An easy way to check for missing end tags (though, you'll have to remember to take them out again for publishing your web page!). The bracket match process also works on (and) too, but not on HTML tags < and >.

```
VIM - ADFS::harddisc4.$.DTP.ARMclub.PD_Dec06.text/html
  1 <html>
  2 <b>text in bold</b>
  3 text not in bold
  4 <b>A mismatched bold heading with no closing tag <where meant to end bold>
  5 Some more text that shows underline from no closing tag
  6 </html>

-- INSERT --                                            2,20        All
```

The Ron Briscoe Column

Christmas at Briscoe Towers.

Yes People it's time to turn to the next page again, for our esteemed editor has sent me a gentle reminder that it is time to knuckle down to writing some more of my drivel. Does anyone realise how hard it is to type with knuckles?

As reported in my last missive I was looking forwards to the Arm Club show, where I and the rest of the MUG Club members had volunteered to assist in. I know that a splitting headache, shortly after reading the first paragraph, had prevented you from reading my article any further but lots of your favourite tipple cures that. In fact I think that a blurry screen helps when reading emails from certain posters to the C.S.A. Newsgroups.

The day of the Arm Club Show dawned, well no it was still dark, when the workmate who had given me a lift to the venue dropped me off into the rain. I was the first one there and waited patiently under my umbrella till Ralph Sillett, who had organised the show, turned up followed by a few more MUG Club members.

Now to all of you who like myself normally turn up prior to the doors opening up to the public and fret at any delay to the official opening times, I can say that a tremendous amount of work needs to be done beforehand.Viz..

The tables have to be laid out to Ralph's master plan. One of the odd things that I had not noticed before is the different ways that the various people like to use their stands. Some like them away from the wall and stand behind them, whilst others like to have the stand against the wall.

The users of said tables have to fill them with good things for your

delectation. Now it must be said that the RISC OS dealers have been to so many shows that they have got unloading their various vehicles and setting up the stands down to a fine art. Help is of course appreciated, in lugging the seemingly endless amounts of goods from vehicle to stand.

After all this the helpers are designated tasks just so the customers can enjoy themselves with little care for anything but spending money and meeting old chums.

All of this effort was not helped by massive holdups on the motorways resulting in several helpers and most of the ARM Club committee being severely delayed. This meant that my cunning plan to skulk in the background avoiding any hard work came to nought and physical exercise was the order of the day.

Eventually all was ready and I was one of the MUG members designated to serve hot drinks and cold food from the kitchen, a job I enjoyed so much that I spent most of the day doing it. Please do not inform Christine that I actually do know how to wash up.

Whilst waiting for the doors to open I inform the dealers that they can purchase coffee and take it back to drink on their stands. First problem the coffee is so hot that the puny plastic cups supplied are in danger of falling apart and the plastic spoons bent ala Uri Geller. A quick shufti through the kitchen cupboards reveals a fair number of ceramic mugs, so I decide that the dealers can have their tea or coffee in those and the rabble, I mean public, can drink theirs out of the plastic cups doubled up. (One cup inserted into another and obviously before filling.)

This rule is later amended to include ladies and their partners. (<- look P.C.) Several people were under the impression that they were buying from a reputable outlet and I got asked such things as "What coffee have you got?" to which the reply was "Fair Trade or rubbish. Take your pick." or "Have you got any vegetarian rolls?" answer being "Only if I take the meat out of them."

Ralph informs us menials that the ARM Club members are allowed free drinks and a certain amount of rolls. I decide that as they haven't done any work and being egalitarian, that they will pay just like everyone else. No one complained although one person did say that he was used to different coffee, probably one of those people who

wave a used coffee spoon over a cup of whipped milk.

We had been supplied with two sorts of milk, whole and skimmed, or as we said proper milk and watered down milk. People who would rather have had semi-skimmed milk were invited to mix a little of both to see if that had the desired effect. It really didn't matter because in one of my frequent forays out to spend money one of the more couth MUG Club members put the milk into large jugs, trouble was that as the jugs looked the same no one knew which was which.

Towards the end of the show Ralph says that to get rid of the remaining rolls we are to offer a reduction in price. I try the old two for the price of three trick and almost succeed with the first bargain hunters. (No names as long as I receive the cheque soon.) The price being dropped to one pound does the trick and most of the remainder go.

The venue had a bar and so you fools who turned down the chance to buy/upgrade stuff and have a battle of wits with a man only half prepared, for everyone knows that all Brummies are half wits, missed out on a nice pint as well. If we hold the show at the same place next year be there or I will put you on my Xmas card list and you really wouldn't like that.

After all the enjoyment of the show it's back to preparing the fattened parsnip. Yes my daughter is due to visit us and despite the plague notices, does. Why only my daughter? Her husband is visiting his parents at the same time thus halving the trauma for them both. Seriously I love to see them both but in my opinion there is nothing worse than an ex smoker who is now anti smoking except possibly committed vegetarians pretending that they really don't mind one scoffing bacon Brummies in their presence.

The visit goes without much mishap and my daughter returns home to Edinburgh clutching various Christmas presents and normality returns. As a reward for my good behaviour I decide to have a drink and what happens next staggers me.

Now some of you may know that 'Morrisons' periodically run an offer of four bottles of various real ales for a fiver and regular readers know that I like to visit my local in preference to drinking in the house. Well the exception to this are Christmas and New Years Eve when I avoid the crowds and enjoy the pleasant company of Christine at home.

I had for some little time been collecting several different flavours of beer for my enjoyment over the festive season and the shock was that my uncaring offspring had consumed the lot. Yes all of it. And all that Christine said was "You can get some more." What? In the last few days before Christmas? A half wit I may be but only a man intent on death will shop just before Christmas. Luckily a friend is an enthusiastic 'home brewer' and supplied me with some of his rather good 'ready for Xmas' stock. Having sampled and lived (just) his parsnip wine I demur to take any wines off his hands as well.

Christmas comes and I as usual have a great time opening presents and stocking up energy in preparation for accompanying Christine to the sales and coming back with my arms two inches longer. We even went shopping prior to Christine going to an afternoon concert of Gilbert and Sullivan tunes. Luckily the cloakroom at Symphony Hall stored the parcels as well leaving me to trundle off to the big boys shops.

The next RISC OS show on my horizon is of course the South West Show where I expect to spend mucho monies on excellent goodies.If you too make the time (and you should) to attend, remember to say hello unless you have strong feelings about rearranging my phizog. In which case I'm afraid you will have to go on the waiting list.

Back at work the MS computers have returned from sick bay but were still unusable due to the log on password being changed and the new one being lost. (Strangely I have only just noticed that Microsoft uses the same initials as a medical condition you wouldn't wish on anyone either.) As I tippy type this the Den computer has been enabled but nothing useful can be done with it as the program that the rest have to use has thrown a wobbly and is locked to new inputs.

I leave you with this reminder. If you do not wish to lose your grasp on reality from reading this type of rubbish, then write something that the editor can print. This will save your senses and save the editor from swallowing his pride and asking me for some more of my drivel. As an interesting aside since my little offering to the WROCC Newsletter I haven't been asked again. One can only wonder if they thought that my penance offering was too much for Yorkshire sensibilities to bear more than once.

Winning games with logic part 16

Barry Aulton

Following Ron's Rubbish Corner I thought I would take the opportunity to write in the same vein; this being written round Xmas time even though you won't get this till March. It isn't that I have anything against Xmas, but my girl friend starts singing carols in August, and by October many things I want to buy disappear from the shops to be replaced by junk designed to fall apart on Boxing day! I thought I would try to find out what the AI community think the future will hold for us, i.e. the solutions to Life, The Universe and Everything.

Question 1 what is Life and can Artificial Life be Life?

This is an extract from Steve Mizrach's article A Life and Cyberanthropology

"The first artificial life program was, of course, LIFE, created by hackers at MIT on a PDP-6 minicomputer; a minimalist program, compared to todays complex simulations. The 'cells' in Life are pixels which either replicate, stay put, or disappear with each succeeding 'generation', depending on very simple algorithms which determine the result. This in turn depends on the number of 'neighbours' (1-8) the pixel has. Since it's essentially a 'population' simulation, in Life, overcrowding results in mass death, and so does isolation. But if you have the right number of 'neighbours,' surprising growth occurs. What amazed the creators of LIFE was that cell combinations (organisms, if you will) of surprising complexity - 'floaters,' 'gliders,' 'shuttles,' and 'repeaters,' for example - would appear from these relatively simple algorithms...

The early hackers, despite the obvious simplicity of their program, could not help but think they had created a new life form on their computer...after all, these 'organisms'

displayed behaviour that no one could have predicted. The mentor of the hackers, Marvin Minsky, thought this was just how the human mind worked - the 'ego' or 'consciousness' just being the 'hacking together' of a bunch of subprograms which made up the mind... The hackers couldn't help but feel the gnawing presence of a Big Question in what they were doing. What if they themselves were programs or automata in a simulation called the 'universe?' (If so, where was the programmer?) The lives of the hackers revolved around the computer, so they could be excused for stupid musings like "Where does the computer end, and real life begin?" Or "what if the programmer for Life (the real world version) left some Easter Eggs in the program for us to find?""

You may decide that human beings are somewhat superior to mere pixels on a screen, (running a more complex program?) but :-

question 2 what are human beings?

Alexander Chislenko,in his 1995 article ARE YOU A CYBORG asked the following questions:- (SPODS please note)
"* Are you dependent on technology to the extent that you could not survive without it?
*   Would you reject a lifestyle free of any technology even if you could endure it?
*   Would you feel embarrassed and 'dehumanized' if somebody removed your artificial covers (clothing) and exposed your natural biological body in public?
*   Do you consider your bank deposits a more important personal resource storage system than your fat deposits?
*   Do you receive most of your knowledge about the world through artificial symbolic language, rather than natural sensory experience?
*   Do you identify yourself and judge other people more by possessions, ability to manipulate tools and positions in the technological and social systems than primary biological features?
*   Do you spend more time thinking about -- and discussing your external 'possessions' and 'accessories' than your internal 'parts' ?

If you answered 'yes' to most of these questions, you are already a cyborg!"

Having established that we are heading towards Cyborgization, the question we must ask

Question 3 is what is the future of humanity?

This is were no one agrees. We have the optimists like Brooks (ref 1), who argues "There is no need to worry about mere robots taking over from us; we will be taking over from ourselves with manipulable body parts and capabilities easily able to match that of any robot". Nitin Mendiratta in his article Emotional Machines points out :-

"We taught machines how to read, speak and understand humans by voices, actions and events. Now we are fast approaching a stage where we will have to impart intelligence to make these non biological machines a part of a living beings family, further diminishing the difference between living and non living, biological and non biological. The intelligence attributes could be Emotions, Creativity and Spirituality. Society will not restrict scientists from migrating human attributes into machines because eventually most of the people will want the indefinite life span and better services from these machines with increased intelligence. And also a new ability of machines to change with time and users".

However, others point to a problem, back to Chislenko:- "Endless patching of aging systems (i.e. humans) is not the ultimate engineering method. The evolutionary role of a legacy system is to perform some necessary functions and test novel design ideas while better systems are being built from scratch elsewhere. After the new designs become fully operational, the legacy system is invariably placed into a trashbin. Or, if it is particularly good, healthy and lucky -- into a historical museum". Of course, anyone who has watched Terminator will know how civilisation as we know it ends; however just to rub it in, Brian Jackson on Sep. 25 2006 writes:-

'Terminator' robots among Pentagon Warfare Plans

The United States has robots prepared to fight in the battlefield and is planning to create more complex machines in the future that think for themselves. Among the robots soon to hit the battlefield are Sword, a machine-gun equipped robot and iRobot's shotgun-totting robot. The (existing) remote controlled Talon robot (see Fig. 1) will have its arm replaced with a machine gun to help out on the battlefield.

Fig. 1

Sword was approved as safe for use by the U.S. armed forces in June. (Talons are lightweight, remote control robots used to detonate potential bombs in many countries, including Iraq and Afghanistan.

The model can drive at high speeds and have arms that place small detonators used to disarm suspected bombs.) Sword replaces Talon's arm with a machine gun. The inventors point out that a human is always in control of Sword, but that may soon change. The Pentagon Office of Naval Research issued a request in August asking for research on more complex machinery that could make its own decisions. The robots would "understand cooperative and uncooperative" people via a stress-detecting artificial-intelligence system. Cues would be taken from speech, face

and gesture recognition.

Ah but Arnie was a cyborg not a robot, no problem:-
Brian Jackson writes on:-

Robots Get Human-like Skin

"While gun-totting robots are hitting the battlefield, the creation of a 'Terminator' robot seems all the more real; with the unveiling of an artificial skin that looks and feels human. Cosmetics manufacturer Kao Corporation showed off their new skin-for-robots at the Annual Conference of the Robotics Society of Japan. They claim that 10 out of 12 people who touched the skin described it as feeling like human skin. To mimic human's largest organ, Kao used a 1 cm thick layer of elastic silicone covered with a 0.2 mm thick layer of urethane. Tiny hexagonal indentations etched into the urethane give it a realistic texture".

Not worried yet? How about this one, again from Steve Misrach:-

"An extremely advanced form of neural-direct VR might be totally indistinguishable from 'real' reality. If it was introduced into a person's brain in some undetectable way, they might not know anything has happened, and not even know they're now in a 'virtual world.' Thus, the possibilities for control are immense. It would be the ultimate form of 'false consciousness.' The State could move from ideological control to total perceptual control. Dissidents could be neutralized by simply introducing their perceptions into false realities where their demands have already been met".

OK back to the fuzz. Here I will restate some of the ideas behind fuzzy logic (see issue 59) from a slightly different perspective. I do not know for certain that your super air zapper you bought for Xmas survived being chewed by your pet labrador. But I could, if I was a gambling man, put some sort of number to my degree of belief that it didn't survive FIDO; since FIDO being an intelligent creature, would reason that if chewing failed to produce the desired effect, perhaps plan B would; "suppose I leap up, grab the thing in my claws and hang there?"

An animal must have some means of evaluating the consequences of its own behaviour: it must choose between competing actions on the basis of something that it can use for comparison; hence the notion of a quantity or number. Of course when we make decisions, we don't have to actually assign a number to such abstract concepts to things like:- how much of a good idea it is to carry out a specific action or how useful something is, since that type of 'quantity' is built in. Strictly speaking no number need be assigned at all, e.g. an animal only needs some means of ordering its preferences; but for humans it is easier to think in terms of some kind of value even if we don't know exactly what that value stands for. Thus in humans decision making seems to be linked to the idea of reasoning about some kinds of 'symbols' that may represent many things and some kind of 'values' that in some way quantify them e.g:- how tall is he? (Here we need to link some sort of conceptual symbol representing tallness with some notional value to indicate how tall). On a computer we can assign a value to a variable e.g. height = 6. We then in our minds, link the variable name height (for the computer) to a conceptual symbol height and the value 6 with some sort of meaning (e.g. 6 ft height above ground). We have now put something into a computer program that represents something to us humans. However height is a precisely measured quantity.

Human reasoning does not appear to use such precise terms. It is often thought that language is necessary to link a symbol with a specific meaning. We thus have the concept of a linguistic variable that we can use to communicate with fellow humans. For example I may say basketball players are tall. This is a fairly vague statement. I could have stated categorically that all basketball players are over 6ft tall; this is not vague but may not be true either. If I change my statement to 'most' basketball players are over 6ft tall, I am probably on safe ground, but I have introduced vagueness again with the word 'most'. What does most mean?
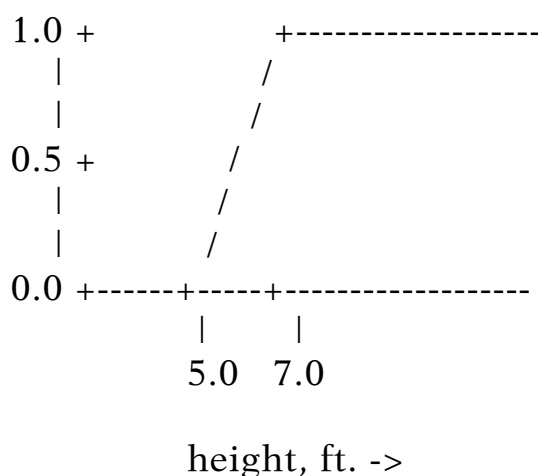
To reiterate, Suppose we define a fuzzy subset TALL, which will answer the question "to what degree is person x tall?" Zadeh describes TALL as a LINGUISTIC VARIABLE, which represents our cognitive category of 'tallness'. To each person we have to assign a degree of membership in the

fuzzy subset TALL. The easiest way to do this is with a membership function based on the person's height. In a computer game usually many simply shaped (e.g. triangular, ramp) membership functions would be used along with an expert system of many fuzzy rules to link them.

We could use some sort of function to represent tallness, such as:-

tall(x) = { 0,   if height(x) < 5 ft.,
            (height(x)-5ft.)/2ft., if 5 ft. <= height (x) <= 7 ft.,
            1,   if height(x) > 7 ft. }

A graph of this looks like:

```
1.0 +              +------------------
   |            /
   |           /
0.5 +        /
   |        /
   |       /
0.0 +------+-----+------------------
          |     |
         5.0   7.0

          height, ft. ->
```

Given this definition, here are some example values:

Person   Height   degree of tallness

Billy   3' 2"   0.00 [I think]
Yoke   5' 5"   0.21
Drew   5' 9"   0.38
Erik   5' 10"   0.42
Mark   6' 1"   0.54
Kareem   7' 2"   1.00 [depends on who you ask]

Expressions like 'A is X' can be interpreted as degrees of truth,
e.g., 'Drew is TALL' = 0.38.

This notion of linguistic variables appears to be vital for

communication purposes. it has been argued that only humans have 'language' and thus only humans can reason. This depends on the definition of the word language. The words particular humans use to communicate are arbitrary and imprecise.

For example take the word 'chair'. If I did not speak English, I would need a dictionary to tell me what a chair is. It is not like an Egyptian hieroglyph that physically represents the object. Once we have separated an object from the 'word' we will use to represent it we have the ability to communicate such notions as 'chairness' to others. However humans are not the only communicators. The dance of a honeybee used to communicate the direction and distance of a food source is symbolic and arbitrary. Different species of honeybee waggle at different rates to indicate distance: a particular rate of waggle would mean 5m to an Egyptian bee, 25m to an Italian bee and 75m to a German bee. So long as all bees agree on the local convention, the precise rate of waggle does not matter. However do bees have any concept of a language? Humans tend not to waggle their bums to indicate distance, having more esoteric uses for the practice!, but have developed other fairly arbitrary means of communication: e.g. many when using a mobile, gesticulate wildly with the other arm, others use a wide range of facial expressions whose meaning depends on their culture. How can we, despite the inherent vagueness in human communication, get a computer program to duplicate a human style of reasoning?

Next time we will look at the details of how this is done.

Ref 1 ROBOT - The Future of Flesh and Machines 2002 Penguin Books

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