

FREE

The magazine for members of

The **ARM** *Club*

Roadshow Pictures

Ron's Column

**A7000+ harddisc
replacement**



Issue 56 - 2006 No. 1

There's life in the old sytem yet

I noticed the other day on the News Groups that the number of Iyonixs sold is said to number only 600. This seems to me a very low estimate as it implies sales of about four Iyonixs a week. If Castle had to rely on this they would have gone bust years ago.

It's impossilble to say how many people still use RISC OS machines but there may be more out there than people think. I know a couple of people who use old Acorn computers but will not buy new ones as the old machine does what they want thank you very much. Old Acorns can go on forever.

This reliabilty is the main reason why people don't upgrade. Why fix it if it ain't broke? If you have a set up that works why change?

If you only use your computer for word processing then buying the

latest computer that opens your document in 0.005 of a second instead of in the 0.05 of a second your 10 year old Acorn opens them is not going to impress.

Again with a small business, if buying a new computer means half your software (some of which is now impossible to upgrade) stops working then again upgrading is not an option.

For people like these the computer is going to have to fall apart before they buy another. Only people who need speed and larger memory storage for sound and pictures will be tempted and I'm not sure that RISC OS at the moment is the best platform for that.

The problem that RISC OS faces is that there is too much life in the old system - it works too well!

All opinions expressed in Eureka are those of the authors and not necessarily those of the Club or its committee members and officers.

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CONTENTS

4 RISC Bytes

A round up of some of the news and happenings over the last couple of months in the RISC OS world.

25 Midlands Road Show 2005

Report by Matt Cook

27 Pictures from the Midlands Roadshow and the SE Roadshow

Matt Cook and Kevin Wells

31 The Ron Briscoe Column

In which Ron has many trials and tribulations.

34 Upgrading a Hard Disc on an A7000+

In which Andy Burgess describes his problems upgrading a hard disc on an A7000+

35 Winning Games with Logic Part 12

Barry Aulton continues with another instalment in his quest for the perfect game.

49 Free for All

Andy Burgess's latest look at the PD scene including the GNU C compiler under RISCOS

53 Druck's Support Tips

Problems with Workspace/Windworks booting

64 Club Contacts

Who you need and where to send



Would you trust this man to sell you a used RISC PC?!

RISC Bytes

NEW CHAIRMAN FOR THE ARM CLUB

Words from the Chair

The Club held it's annual AGM after the South East show this year, replacing the usual Birmingham venue admirably.

Our major item of business was the selection of a new chairman. After six years at the helm, Toby Smith has decided to step aside, and a new candidate was chosen to act as leader of the committee.

Toby writes:

Back in 1999 I took over as Chairman of The ARM Club after a long involvement in committee work.

Acorn promptly marked this event by ceasing business.

Whilst I doubt this was personally directed at me it did cause an uncertain future that the market, and the club, has seen through. Much has changed in those three things (the Club, the Market, and the Chairman) and I feel it is now time for this Club to be directed by a new force.

The Club Chairman is not an easy role, and ought to be someone who passionately uses RISC OS, who can advocate it's advantages to all comers, and on the other side, continue to keep the needs of the membership at heart when directing what services the club can provide to them.



Our new Chairman - spotted at a recent show

The ARM Club has a history of departing Chairmen anointing their successors, and it is to this tradition that I turn for my last act. We have in the committee a man who does fit all of the above criteria, (user, advocate, member-champion) who already has a notable standing in the community at large, and a name known to all. That man is David Ruck. After a brief bit of cajoling, he's agreed to stand for the role of chairman.

With Toby's proposal, and seconded by Tom Hughes, David Ruck was duly elected the new chairman of the The ARM Club.

The Chair is gone. Long live the Chair.

New Booklets from Archive Publications

Each of these booklets brings together, in one convenient booklet, the combined wisdom on a particular topics as published in Archive over the years. They cost £5 each from Archive Publications. (Buy all four booklets and get a bonus booklet free!)

The compilation booklets now available:

Book 1 - Messenger Pro in Action

Ten articles plus various hints & tips on using R-Comp's email client, Messenger Pro

Book 2 - Networking RISC OS and other Platforms

Eleven articles covering various aspects of linking RISC OS-based to computers using other operating systems: Mac OS, Linux and Windows

Book 3 - VirtualRiscPC in Use (Volume 1)

The first 12 articles in Archive about using VirtualRiscPC written by the prolific T.O.M.S. team. (There will be enough for a Volume 2 within a few months.)

Book 4 - Wimp Programming in C

The first 18 articles in the series, written by Paul Johnson, on programming the Wimp using the C language.

The following booklets are under consideration. If you would be keen to see any specific booklet in print, please contact Paul Beverley.

Assembly Language Programming
Basic Programming
CSS - cascading style sheets
C from the Top
Dr Wimp
DrawWorks and DrawGen
Engineer's Advice
Impression
Internet Ideas
Iyonix and RISC OS 5
Keystroke
More Networking
Ovation Pro
Photodesk
Psions & Things
Printers & Printing
RISC OS 4 and All That
RISC OS Select
Spreadsheets from the Beginning
StrongED
Starting Basic
Technical Wordprocessing (i.e. TechWriter)
Text Import and Export
Top Hints & Tips

For up to the minute RISC OS news visit

DROBE

www.drobe.co.uk

GEMINUS NOW AVAILABLE

Geminus (screen acceleration) software for the Iyonix PC is now available for purchase and download. The price for all the acceleration features is £40+vat (£47).

Since the beta release last month, the caching algorithm has been tuned and a new acceleration feature added - DMA transfers for 'Tinct' plotted sprites (as used by Netsurf and Firefox) plus fixed the reported bugs.

The impressive list of 'real world' things that Geminus now accelerates are

- Drawing window background textures.
- Drawing window furniture. ('Toolsprites')
- Sprite plotting, especially large sprites such as backdrops and camera images. Geminus uses DMA hardware to plot the sprite 3-5 times faster than the OS sprite plotting routines can manage.
- Sprites are remembered in off-screen video memory, so that they can be plotted again much more quickly. This helps large Filer windows and applications that use a lot of sprites such as !Paint.

- Rendering of web pages in NetSurf and Firefox via Tinct (uses the DMA acceleration for large images/pages, and faster sprite plotting for rotated/swapped modes)

- Redrawing of window as other windows are moved around. Window contents are remembered (cached) in the extra video memory on the graphics card(s) so that they can be redrawn much more quickly when another window is moved across them. This makes complex applications such as ArtWorks, Oregano2, PDF, NetSurf and others much smoother in use.

- Selecting rows and columns in !Paint. (Rectangle inversions are performed using the hardware and are hundreds of times faster than doing them in software with RISC OS 5)

- Drawing horizontal and vertical lines (eg. window borders).

Geminus (screen acceleration) needs no additional hardware or graphics cards - the features of the IYONIX hardware and existing NVidia graphics card supplied with every IYONIX are used. If you are lucky enough to

own Geminus (multi-monitor) with two graphics cards, the screen acceleration and caching code makes full use of all available cards.

Geminus (screen rotation) users will also notice a significant performance boost offered by the caching and acceleration features in rotated screen modes.

Existing Geminus users may upgrade to the latest code (v1.10) for their respective versions for free which has had improvements in memory usage (saving 16Mb).

If you have already downloaded the beta release, this has been upgraded this to the full demo version which you may just re-download from the 'my software' page. Now everyone has at least one download credit available if you had previously run out. As with all our software, the demo version is fully featured but time limited allowing you to fully try out the software before purchasing.

If you already own one of the other Geminus features, you may

add the screen acceleration from the same 'my software' page - just click on the 'add features' link next to the copy you wish to upgrade.

New users can purchase any combination of features - multi-screen driver, screen rotation and acceleration; according to your needs.

The release notes and online documentation have also been updated.

The URL is

<http://buyit.spellings.net>

Geminus is a suite of graphical extensions to RISC OS 5. At present, three of the five planned features are available. Future releases will add software RGB swapping - removing the requirement for modified graphics cards and needed for DVI output, and low colour screen modes (currently provided by Aemulor Pro, but will be moved into Geminus).

!SICK V1.26 released

Version 1.26 of !SICK (System Information and Configuration Kit) is available from:

<<http://www.software-evolutions.de/download/free/>>

Wakefield RISCOS Computer Club

Charity Auction Results

It was announced that the recent Charity Auction (held on the evening of Wednesday 7th December) raised the grand sum of £241.00 for the Sick Children's Trust, a national charity caring for the parents and children of very sick children providing accommodation for them to stay at the hospital near their very sick child. They have these centres at a number of hospitals up and down the country.

There is a indirect connection to Acorn in the shape of the centre at Addenbrooke Hospital Cambridge being called Acorn House.

Probably the star item for sale in the charity auction was the MicroDigital Omega - that rather rare piece of RISC OS hardware. It came with mouse and keyboard plus all the usual bits (the monitor was sold separately). The working Omega sold for the stunning price, of 35 pounds! The 17" Acorn AKF85 Monitor fetched a further 10 pounds.

The donor of the Omega said he was disposing of it simply because he had no further room for the monitor and computer, he still had another 8 computers including an Iyonix and other unspecified machines. It was not because he did not like it, he just needed the space.

Mijas Software announce the release of !ArcSimp 8

Analogue AND Digital Gate Simulation (separately or mixed).

Now in 26/32 neutral format for all RISC OS Computers from the RISC PC to the IYONIX and the A9.

!ArcSimp can simulate Real world systems such as Cars and Aircraft also digital gate systems such as an analogue to digital convertor. All by simple manipulation of system elements in a RISC OS window. The results can be seen numerically or as a moving plot or as a dynamic two dimensional model of the event. Download a demonstration copy from:-
mijas@orpheusweb.co.uk

Sib2Draw 2.10

A new (2.10) version of !Sib2Draw has just been released, It includes a fair number of improvements as well as some bug fixes.

Main new features:

- complete symbol manager with save, import, export for any valid Draw and Sib2Draw object - grouping of entire music slots upon import from Sibelius - beams grouping - selective locking according to group name (slur, slot, beam, text) - improved speed of text styles editing.

Near-future planned features:

- layers - dynamic parts extraction and edit (as in SibWin/Mac 4) - magnetic tool for path points & objects sides.

Sib2Draw code has been finally converted to 32-bit neutral.

More info and downloadable demo

at

<http://www.wln.it/sib2draw.html>

For the unaware: !Sib2Draw is a comprehensive vector package which can be used along with all 'flavours' of Sibelius to build music scores of any complexity. Its unique DTP-like features (multi-page document support, object locking, symbols manager, text styles creating/editing,

unlimited document-wide undo/redo etc) make it an attractive stand-alone package for non-Sibelius users as well.

RiscCAD file viewer

A Freeware RiscCAD Release 10 file viewer is now available from the RiscCAD website for download.

The viewer allows people who do not have any version of RiscCAD, or Release 10 to view RiscCAD 10 drawings.

As this is only my third C program, use is at the users own risk.

RiscCAD is the popular and professional 2D CAD software for RISC OS which is currently undergoing substantial development. Release 10 was released at the Southeast Show in October and included new features such as anti-aliased fonts, Bezier curves, Flood pattern filling and much more.

A demo copy is also available from the website.

www.risccad.freeuk.com

ROX-Filer 2.4 is out now!

<http://rox.sourceforge.net/phpwiki/index.php/ROX-Filer>

ROX-Filer is a small, fast, powerful filer for Unix, Linux and compatible systems. Its user interface is based on the RISC OS filer, and it supports similar concepts, such as application directories, drag-and-drop saving and popup menus. It implements a RISC OS like pinboard, and a panel which can be used in a similar way to the RISC OS iconbar. It also supports many features not found in RISC OS, including thumbnails of images, keyboard short-cuts, custom menus, many more options, powerful search facilities, etc.

ROX-Filer can be used on its own, with another desktop (such as GNOME, KDE or XFCE), or as the core component of the ROX desktop. The ROX desktop aims to bring all the good features of RISC OS to modern systems. The project web pages get around one hundred thousand hits per month, and the mailing lists have seen over ten thousand posts.

Get ROX-Filer here:

<http://rox.sourceforge.net/phpwiki/index.php/HelpInstalling>

New!: To get the whole desktop, just download the ROX-All package from here:

<http://rox.sourceforge.net/phpwiki/index.php/ROX-All>

Screenshots (including many contributed by users):

<http://rox.sourceforge.net/phpwiki/index.php/Screenshots>

The filer is distributed under the GNU General Public License, which means that anyone can modify it, use bits of it in their own (GPL) programs, etc. Indeed, many of the improvements made to the filer were added by other ROX users and posted as patches to the mailing list.

Changes since ROX-Filer 2.3:

- Added initial support for .desktop files (Thomas Leonard). They are now shown as executable, with the appropriate icons, and clicking on them runs the application.
- Only require shared-mime-database 0.14, not 0.16. Add the missing subclasses manually (Thomas Leonard).
- Better support for old GNOME themes with GNOME-specific MIME names (Dennis Tomas).
- Make all option menus into the options box wide enough for the

widest item to avoid resizing when the item is changed (Andras Mohari).

- Allow some labels used to display file names to wrap over more than one line, improving display of very long file names (Stephen Watson).

- Updated install.sh with the current shared-mime-info URL (Stephen Watson).

- Added ROX-Filer.xml file, giving details of the current version. This can be used to register a CVS version of the filer with the Zero Install injector easily (Thomas Leonard).

- Renamed 'Xterm Here' to 'Terminal Here' (suggested by seventh guardian).

- Removed GNOME-VFS from --version output; we never use it now (Thomas Leonard).

- Failure to create a usable default icon theme can be due to a broken link, so inform the user and show ~/.icons (Stephen Watson).

- Extended attribute support more general, not just types (Stephen Watson).

- Removed 'Open AVFS' from menu. It doesn't do anything on most systems, and you can always add it with 'Customise menu...' if you want it (Thomas Leonard). The manual explains how to do this.

Bug fixes:

- The refresh feature was accidentally broken during the upgrade to the new MIME system (Thomas Leonard; reported by Frantisek Fuka).

- The install script failed to compile ROX-Filer on Debian systems, due to a bug in recent versions of xterm (Vincent Lefèvre). Added a workaround.

- On 64-bit systems communication between ROX-Filer processes didn't work, because GDK uses sizeof(long) bytes (not always 4 bytes) to store a 32 bit property (Lucas Hazel).

- If stdin wasn't set when ROX-Filer was started it could get used for the X connection, before ROX-Filer got around to replacing it with /dev/null (Thomas Leonard). Let -R work again (Stephen Watson).

- In details mode, clicking on an item while the keyboard focus is visible moves the focus to the item clicked on (suggested by Anthony DiSante).

- An (extremely unlikely to occur) error message was missing some arguments (Thomas Leonard; spotted by Andras Mohari).

- Show progress bar from start when an action is on more than one

item (Stephen Watson).

- If you edited the target of a symlink in the properties box, and then unfocussed the entry when the symlink no longer existed, the filer would crash trying to display the error message. Added work-around (Thomas Leonard; reported as GTK bug #315229).

- Fix typo in the Solaris xattr implementation (Stephen Watson).

- When doing Tab completion, part of the code was still case sensitive, causing it to sometimes fail to notice multiple matches (Keith Warno; reported by Tristan McLeay).

Translations:

- Updated Chinese translations (Babyfai Cheung).

- Updated French manual translation (Arnaud Calvo).

- Added Hungarian translation for the <About> section in AppInfo.xml (Andras Mohari).

- Updated Japanese translation (Hiroaki Tanaka).

- Updated Hungarian translation (Andras Mohari).

- Updated Estonian translation (Teet Tarno).

- When using 'From LANG', check for translations with and without the territory part (seventh guardian). Also do this when loading the manual or finding a summary in AppInfo.xml (Thomas Leonard).

- Marked some titlebar flags as translatable (reported by seventh guardian).

- Updated French translation (Vincent Lefevre).

- Updated Polish translation (Wit Wiliński).

- Added Portuguese (for Portugal) translation (Renato Caldas).

- Updated it.po and Manual-it.xml (Yuri Bongiorno)

SOAP:

- Make Path optional in PanelRemove SOAP call, allowing removal of items based only on their label (Jonatan Liljedahl).

ADDRESSES

There are installation and getting started guides available. The getting started guide has lots of screenshots and may be interesting to people thinking of trying ROX, or wondering what it looks like.

<http://rox.sourceforge.net/phpwiki/index.php/HelpInstalling>

<http://rox.sourceforge.net/phpwiki/index.php/GettingStartedGuide>

You can read more, download ROX-Filer, read the comments people have made, and look at some screenshots here:

<http://rox.sourceforge.net>

<http://rox.sourceforge.net/phpwiki/index.php/UserComments>

There are two mailing lists; rox-users and rox-devel. You can subscribe here, or look at the archives:

<http://rox.sourceforge.net/phpwiki/index.php/MailingLists>

We have a mail-to-news gateway, so you can keep up with the lists using your favourite newsreader if you don't want your inbox flooded (see above link). You can also chat to us using IRC:

<http://rox.sourceforge.net/phpwiki/index.php/FreeNode>

A selection of tutorials on writing ROX applications is available on-line:

<http://rox.sourceforge.net/phpwiki/index.php/Tutorials>

OTHER NEWS

See the news page for more details and links:

<http://rox.sourceforge.net/phpwiki/index.php/NewStuff>

AMPlay 2.00

AMPlay 2.00 is now available for download from the website.

AMPlay is a desktop player for MP3 music files, using the AMPlayer module. It contains a number of features specifically aimed at dealing with very large collections of MP3s ('large' in this context is many thousands).

v2.00 is a complete rewrite, in BASIC, using the DrWimp library followed by compilation with Castle's ABC compiler. It is now 26/32-bit neutral, and is much improved over the last release (1.53, back in 2003).

It is freeware, with source available. For further information, refer to the website

<http://www.mikejs.com/riscos/amplay.html>

There are three main downloads; AMPlay itself, AMPlayCfg, and text documentation (757KB):

http://www.mikejs.com/riscos/amplay/amplay_200.zip

AMPlay utilities (remote control and other (86KB):

http://www.mikejs.com/riscos/amplay/amplayutils_200.zip

AMPlay source (including utilities source) (694KB):

http://www.mikejs.com/riscos/amplay/amplaysource_200.zip

The documentation is also readable on-line;

<http://www.mikejs.com/riscos/amplay/docs/text/>

ARMalyser version 0.52

ARMalyser version 0.52 is now available from

<http://www.armclub.org.uk/free>

Enhancements and fixes since last release * Check for sensible SCL chunk id added * Module header end detection improved * Test for condition not compatible with flags set by instruction * PLD not treated as dynamic branch even if non ARMv5 * BL/BLX & CLZ decode subtype numbers corrected * Construct start markers added * Debug data bitfield type omission corrected * Labels used for debug data pointers in assembler output * Assembler & Disassembler output string generation improved * ARMv5 decoding suppressed unless target XScale specified * Fixed Rm state calculation for data processing instruction with reg shift * Data backtrace location moved to pickup byte modifications * Dots substituted for characters 128 to 159 in HTML output * Linux x86/64 build added

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 32bit, and to highlight performance issues on different ARM variants. The assembler output may be used as a basis to produce 32bit 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, ARM Linux[*], x86/32 & x86/64 Linux and x86/32 Open BSD.

[*] To follow at a later date.

Bogofilter 1.0.0 for RISC OS just released

Bogofilter is a Bayesian spam filter. It inspects email messages and does insert appropriate headers into the mails that indicate whether or not the message is spam so that you can filter on them.

The changes from the last RISC OS release (0.92.6) are too numerous to list here, just to name a few:

- * uses SQLite3 as backend instead of QDBM (thanks to Richard Windley for his SQLite3 port)

- * Unicode support using the iconv module (thanks to John-Mark Bell for this)

- * skip some MIME type attachments to increase speed

For more detailed information about the changes, please have a look at the NEWS file.

Bogofilter for RISC OS is available from

<http://www.sbellon.de/sw-ports.html>

If you upgrade from any previous version, please read the upgrade instructions inside the archive (called !ReadMe1st).

There are instructions provided of how to let Pluto/MsgServe/Newsbase and POPstar interact with it. Bogofilter itself is aware of the ANT Suite mail format, so it should work with the ANT Suite as well, however the installation instructions for the ANT Suite haven't been tested (feedback is welcome!).

!DirPrnt Version 1.30

This is a significant re-coding but there is no functional change from the users' viewpoint.

!DirPrnt is an odd little freeware utility application. It automatically sends files to a printer from a user-determined target directory.

It can be of use over a network when a printer can only work with one computer but the user wants to print files from any of the networked computers. Some with a LaserDirect printer have certainly found a use for it.

Not a 'killer app' – but worth every penny of the price!

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

New release of the Dr Wimp package

The main change is that all coding *specifically* to cater for RO versions earlier than 3.60 has now been eliminated.

This does not necessarily mean that Dr Wimp-authored applications will not run on earlier machines, but if the application uses Dynamic areas or renders Drawfiles or JPEGs then RO 3.60 or higher will now be needed. Also, the Colour Picker and plotting text in 'desktop font' will need at least RO 3.50

Apart from the above, there are new wimp-functions to: - resize and/or move icons. - open/close Filer directory windows.

Several existing wimp-functions have been extended to offer the option of a warning if the specified file cannot be found.

There is also a new Elixir to carry out operations on multiple icons or menu items.

Finally, !Linker and !Fabricate have both been slightly improved and upgraded to use Dr Wimp Version 4.40.

<http://www.rayfavre.me.uk/drwimp.html>

Dr Wimp is a very popular freeware package enabling anyone with some familiarity with Basic to write wimp-programs very easily - without worrying about SWI calls, parameter blocks etc. All the clever stuff is done for you behind the scenes.

Dr Wimp is also 'non-limiting' in the sense that if you do have a need for something that Dr Wimp doesn't already cover then you can usually simply add your own code. Apart from the core programming items, the Dr Wimp package comes with a 200+ page on-screen Manual, several utilities and many well-commented example applications.

The web-site also contains links to many third party applications authored using Dr Wimp. **<http://www.rayfavre.me.uk/dwapps.html>** and contains a pretty good selection of freeware applications authored using the Dr Wimp package.

Recent additions include:

- 2 SuDoko items;
- 4 applications by Alan Wickham, including his !FadMasks and others in that 'photo manipulation' genre;

Other authors include Rex Palmer, Harriet Bazley, Matt Bellamy, John Williams, Keith Wright, Graeme Wall, Tim Nicholson, Kevin Edwards, Philip Perry, Dave Edwards, Mark Hutchinson and myself.

It also holds:

- my 'How to' guide on printing a pamphlet from an Impression document;
- ASCII charts (remember them?!).

LaBella

Version 6.00 of !LaBella - the popular freeware label-printing application - is now on the web-site at: **<http://www.rayfavre.me.uk/dwapps.html>**

This new version has a completely re-designed visual interface intended to present simpler main windows than before, but the fundamental user-operations are not materially altered.

Label definition files from previous versions will still load without problem ****but you will need to change their filetype to &1C3 ('labella') first.**** (This is because the application and its main file-type are now registered with RISCOS.)

Apart from the significant visual changes, new features are:

- A user's favourite label+CSV pairings can now be saved as 'favourites' for subsequent instant re-loading - and a 'favourite' can be configured for start-up if required.

- 'Font blending' has been added as an option.

- The bottom line of text can now be positioned to give a fixed vertical offset from the bottom of the label.

- Start-up choices (including window positions) have been increased and their saving arrangements improved.

- Minor changes to improve role of Page display as printing preview.

- Extra facilities for editing a loaded CSV/text file.

- Improvements to assist those using 800×600 displays.

- The Manual has necessarily been re-written. Fully-formatted Manuals, with many screenshots, in Impression and OvationPro formats can be downloaded separately from the web-site. The application includes an integrated text-only Manual. (Hopefully, Easiwriter and HTML versions will be available soon.)

!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 are included plus several example CSV files and graphics.

!LaBella is authored using the *freeware* 'Dr Wimp' package

D3toHTML MP3 Index Page Creator

IDtoHTML is a program application which complements the excellent MP3 utilities of Roger Darlington:

<http://rogerdarlington.members.beeb.net/DownL.htm> and the superb MP3 tag editor of Chris Johnson,

<http://www.chris-johnson.org/software/index.html> and will prepare a HTML index page of any MP3 files in the directory from which it is run or sub-directories thereof.

It may be useful for cataloguing in a cross-platform compatible way the contents of CDs or DVDs prepared for the storage of MP3 files.

As it takes a little time (about 90 seconds) to process a full DVD here on my Iyonix, it has been made to multi-task and an audio prompt to signal completion added.

It works by interrogating the ID3v1 TAG of each MP3 file it finds by searching recursively, and adding the album title, track title and artist name to the index page with a relative link to the source.

On a PC, this means that the link will (probably – it does here under '98) invoke the player and play the track.

Under RISC OS the link behaviour is less predictable – it may provide an option to save the file (NetSurf) or attempt to play it (Oregon 2 – but

which, here, lacks a suitable plug-in). It does, at least, provide the ID tag information for perusal.

The NetSurf behaviour is probably most useful for compiling track sets from DVD-archived tracks, though using Shift with O2 behaves similarly.

The program incorporates the optional facility to auto-boot the index page of CDs or DVDs under 'Windows' systems by creating the appropriate files in the root directory. This facility is accessed by running the program with the ALT key depressed.

It has been through a few stages of incompetency, and now seems robust and reliable enough to release to the world, so I invite you to download it via:

<http://homepage.ntlworld.com/jrwwmail/software/id3tohtml.htm>

Direct feedback initially via my site (below) link or the e-mail address in the Help file.

<http://www.PicIndex.info/>

PrtInfo update etc.

Two programs have been modified by Thomas Milius on his home page.

1. The printer dumper PDumperEI (!PDPEICal) now contains an improved calibration file for the EPSON Stylus Photo 870 generated by Martin Hodgson.
2. The printer maintenance utility !PrtInfo has been improved a lot since the last public version 1.00.

Lots of bugs have been sorted out.

Additional actions have been added.

PrtInfo V1.07 supports maintenance of shared printers and can be used together with !PrintSpool.

With the help of Ewing Pring and Doug Web a printer driver for the Canon i550/i560 has been added.

So !PrtInfo now directly supports the

- Canon i550/i560
- Canon S500
- Canon S750
- EPSON Stylus Color 480/580
- EPSON Stylus Photo 700
- EPSON Stylus Photo 870

It is likely that the drivers can be used for a lot of other printers by a simple reconfiguration of !PrtInfo.

!PrtInfo allows you to perform various operations like cleaning the heads, printing nozzle checks and showing the ink level of cartridges.

The possible operations are depending on the printer and the used interface. Usage of the parallel port in the moment will exclude all actions which are requiring a data flow to the computer (like showing the ink level) for no Nibble Mode handling is implemented in the moment. At USB Castles stack is the only supported one. So in the moment the program is mainly useful for Iyonix users.

Both programs are Freeware and can be downloaded from

<http://www.thomas-milius.homepage.t-online.de/German/Computer/printer.htm>

or for the English speaking persons from

<http://www.thomas-milius.homepage.t-online.de/English/Computer/printer.htm>

Updates from The Really Small Software Company

The Really Small Software Company has announced a number of software updates on the web site at:

<http://www.reallysmall.co.uk>

Sourcery (0.70) Sourcery is a development tool that manages all of the source code and resources that make up a project. Use whatever tools you want to build the project, Sourcery tries to make life easier without restricting what you want to use to build your software.

Changes this release include:

- Fixed a problem with assembler dependency files
- Fixed a problem renaming resource files
- Added experimental support for remote compilation
- Updated manual with new example for GCC

SampleEd (0.40) A disk based sound sample editor. Provides effects such as fade, reverse, echo and amplify. Additionally supports the LADSPA plugin API to extend the effects available. Many sound formats supported using libsndfile and Digital Renderer used for playback.

Changes this release include:

- Playback now supports more than 2 channels
- Equations now generated using newly ported expreval library
- Added independent volume control for each channel
- Added stereo position control for each channel
- Multichannel samples can be downmixed when saved

SQLite The SQLite library is a small embedded SQL database engine that has been ported to run natively on RISC OS.

This release delivers ports of versions 2.8.16 and 3.2.7. Note that SQLite3 can not read databases created with SQLite2.

These libraries require a 32 bit Shared C Library due to the use of 64 bit integers.

ExprEval This is a port of an expression evaluation C library. Used by SampleEd, hopefully this will also be of use to others wanting to evaluate expressions within a C or C++ application.

HTML Tidy 03–Jan–2006 port released

When editing HTML it's easy to make mistakes. Wouldn't it be nice if there was a simple way to fix these mistakes automatically and tidy up sloppy editing into nicely layed out markup? Well now there is! Dave Raggett's HTML TIDY is a free utility for doing just that. It also works great on the atrociously hard to read markup generated by specialized HTML editors and conversion tools, and can help you identify where you need to pay further attention on making your pages more accessible to people with disabilities.

You can download the current latest version (taken from CVS), with throwback bodged in as usual, from:

<http://www.archifishal.co.uk/software/riscos/tidy.shtml>

!M740AVUtl released

!M740AVUtl is a freeware tool which allows you to manipulate TV recordings made by the Siemens Gigaset M740 AV DVB-T receiver. It is likely that it is working with recordings made with the relatively new Siemens Gigaset M750 S receiver too.

Both receivers are recording TV using network. On RISC OS machine you can use Samba for this purpose. The recordings can be played on the reveivers fetching them from the computer.

However sometimes you want to remove some parts of the recordings and you might want to watch them on your RISC OS machine. !M740AVUtl allows you the removal of the unwanted scenes and provides a graphical user interface for the convertation program replex written by Marcus Metzler which I ported to RISC OS. replex will convert the recorded TS stream into PS streams which can be played with KinoAMP.

<http://www.thomas-milius.homepage.t-online.de/indexE.htm>

32-bit compatible PGP 2.6.3ia

A 32-bit compatible version of PGP 2.6.3ia is now available on my website at <http://www.queen.clara.net/pgp/acorn.html> for the benefit of Iyonix users who still need PGP 2 for secure e-mail. For most purposes RISC OS users will now find it advantageous to use the more versatile GnuPG, but this PGP upgrade may make it more convenient to communicate securely with other PGP 2 users.

This new PGP version was re-compiled by Christopher Bazley, from Gareth McCaughan's original source code, and I thank him for allowing me to host it on my website. It has been thoroughly tested on an Iyonix, and it functions exactly like the original PGP version.

The following are available in separate archives: (1) the executable file "pgp" to replace the one in Gareth McCaughan's original PGP distribution; (2) the revised source code. All the documents and other relevant files in the original PGP distribution should be retained unchanged.

PGP (or its alternative, GnuPG) is the standard encryption/decryption program for secure e-mail.

!Workspace version 3.86

A new version of !Workspace is available from <http://www.armclub.org.uk/free>

This has the following changes:—

- * Doesn't attempt to bring windows back onscreen when they are moved off to prevent problems with Artworks and Ovation pro tool panes

!Workspace is a utility that provides 6 desktop workspaces to prevent cluttered desktops. Windows can be paced on sperate workspaces which can be instantly switched between. Windows can live on more than one workspace, and each workspace can use a different screen mode and palette.

!GraphTask 4.02 release

Version 4.02 of !GraphTask is now available, incorporating the following changes:— * Added VDU4 text cursor control with VDU23,1,x| (x=0 off, non zero on)!GraphTask provides graphical taskwindows allowing many non desktop programs to be run in a multitasking desktop window. It supports VDU graphics plotting, numbered modes including teletext mode 7, palette changes, scaling of the window, and reporting the mouse corrected position.

<http://www.armclub.org.uk/free>

Midlands Road Show 2005

Midlands Christmas Roadshow

Report by Matt Cook

Unfortunately this year The ARM Club was unable to plan and organise the annual Motorcycle Museum RISC OS show, so the community was pleased when RISC OS Ltd announced a series of road shows in December.

I went along to help represent The ARM Club at the road show event at West Bromwich Albion Football Club on Thursday 15th December. I had been working that morning at North Nottinghamshire College which gave me a free afternoon before I was back at Loughborough University the following day.

After making good time across country using Tom Tom Mobile 5 satellite navigation software on my mobile phone, I discovered again the limitations of GPS / satellite navigation software. Unfortunately the postcode given for the venue was not recognised by my software and so instead I had to settle for the centre of

West Bromwich. After coming off the M5, the satellite navigation software told me to turn right just as I noticed that the signs for the Football Club were left, I decided to trust the brown signs and went in search of the venue; thankfully the satellite navigation software was still alerting me to the numerous speed cameras along the road.

This is where some signs to the event would be useful; I was looking for the Hawthorns, which turned out to be the area not the particular venue, so I got rather confused when pulling into the Hawthorns public house which was locked up. After a quick phone call and adding a couple of other confused RISC OS vendors to the convoy we eventually arrived.

We were greeted by Paul Middleton and the usual RISC OS community camaraderie meant that only one trip was made carrying heavy items upstairs. The venue was very nice, much smaller than the suite in the Motorcycle museum, but

more suitable to the industry as it currently stands. There were 12 exhibitors; Advantage Six, Archive, Castle, CJE, Icon Technology, Mathmagical Software, MW Software, Qercus, R-Comp, RISC OS Ltd, Virtual Acorn and The ARM Club.

There were no real surprises or nothing out of the ordinary. I was particularly impressed with the Archive booklets which were very well written and contained lots of excellent information. Certainly worth a look.

RISC OS developments were not really apparent, still only adding little more than a cosmetic enhancement in my opinion. It is a shame that market seems full of false promises.

However in terms of hardware the clear development of the Advantage Six A9 was very encouraging. The developments even included the 'Head' range of software to increase the usability of the small machine.

The ARM Club took a fair few renewals which was encouraging and we were able to solve a number of technical issues in person at the show.

Although no figures have been officially released for attendance, I would estimate around 40-50 people came between 4 and 8 pm that evening. It was in comfortable surroundings with comfy chairs and a bar for those not driving. Perhaps this is the future of Acorn shows, only time will tell.

Meanwhile add the Acorn South West 2006 show to your diary, Saturday February 18th, 2006.

Roadshow Photos

ARM Club



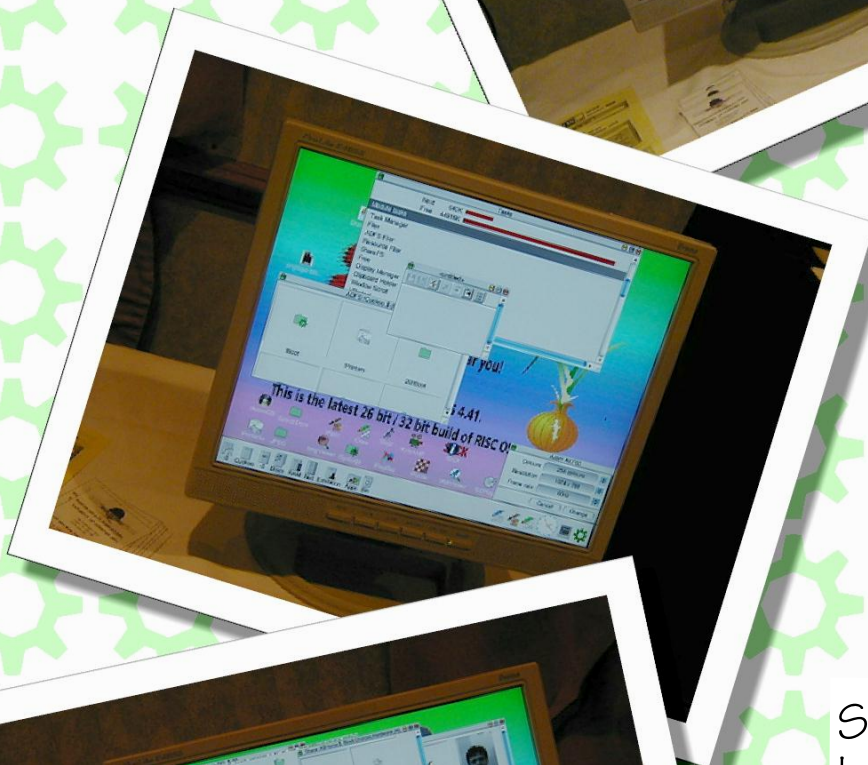
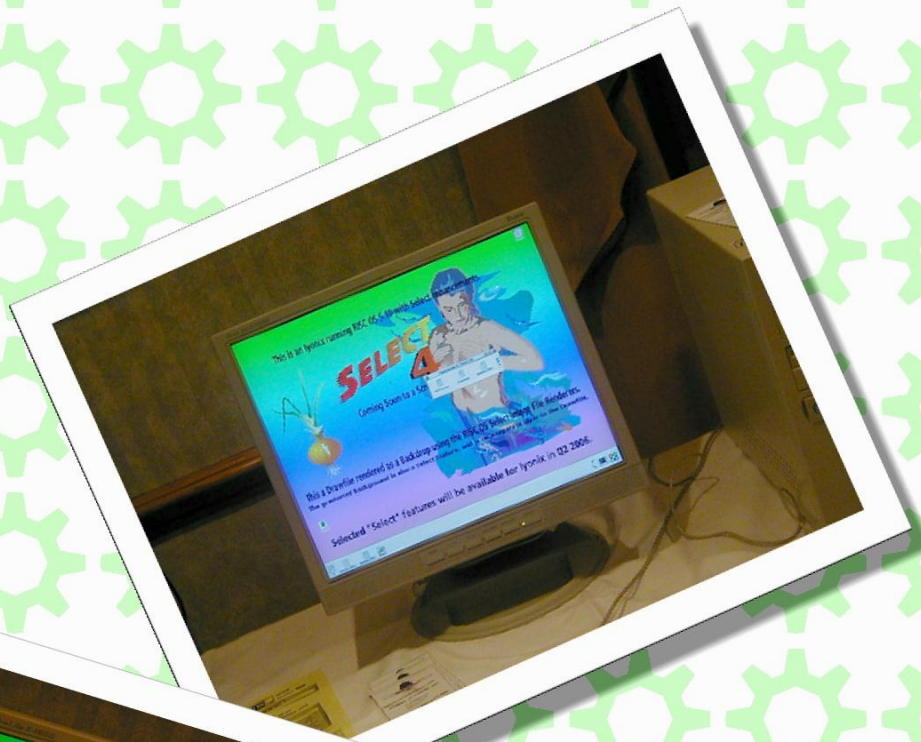
Advantage 6

Artworks/Easy
Writer corner



All photos by
Matt Cook

All photos by
Kevin Wells



Screen shots of the
latest Select

All photos by
Kevin Wells



APDL

CJE micro's



Virtual Acorn running
on an ImacG

Sudoku



Photo Kevin Wells

Archive Publications



Photo Matt Cook

Castle



Photo Matt Cook

If you would like your RISC OS related photos featured in the centrefold, please send them to the editor by the next copy date.

The Ron Briscoe Column

In which Ron has many trials and tribulations.

Well hello again, the title says it all. Since my last article things have been happening here at Briscoe Towers and not all nice either.

First up I catch a nasty chest infection that puts me on my back, literally. Wheezing through a semi-conscious haze I see the face of Bill Gates and know that I am doomed to go to the other place and will have to use Windows for eternity. This frightens me enough to recover and soon Christine is asking me if there is anything that I would like. "An A9 would be nice," I croak. Nurse Christine smiles because by that one remark she knows that I am on the mend.

After three weeks I am deemed fit enough to return to work where there is a massive backlog of jobs to work through, including a blocked overhead pipe. A quick investigation shows me that the pipework is not going to respond to further attempts to unblock it as my friends the multi-skilled

have turned a semi-blocked pipe into a completely blocked pipe. I decide that the best thing to do is to run a temporary line of reinforced hose alongside the blocked pipe and remove and replace the defunct pipework at the weekend.

I fetch some ladders (I did say that it was overhead pipe didn't I?) and after removing several interested bystanders put into place the barriers, signs and tapes that permit only authorised people into the area and start work. Work is progressing well and I am in fact banding up the last piece of hose when I hear an ominous crack and feel the ladder start to slip. My aged brain realises that directly beneath me is a workbench covered with sharp pointy bits and behind me there is a concrete floor.

I decide that the hard floor is a better option and throw myself away from the ladder. I am saved, my fall is broken by a member of the management who has just appeared on the scene to whinge about his lost production. We end

up in a heap on the floor. I suffer a lightly grazed arm but he has all of the air knocked out of him and bangs his head on the floor. I check that he is not badly hurt and yes his eyes are glazed but as that is their normal state I deem that he is OK. [1]. He also has further reason to gripe as we have to wait for the 'Accident Prevention Officer' to carry out an accident investigation. The result? The retaining bolt on one of the safety feet has split the ladder side by a good eighteen inches and allowed the foot to turn and let the ladder slide backwards and sideways.

The investigation complete we go our separate ways, the manager to nurse his bruised head and ego, the Safety Officer to write up his report and me to suffer the accusations from all and sundry that I hadn't tried hard enough to kill the manager. There ain't no justice.

Meanwhile back at home I am looking at my little pile of cash and looking forward to spending same at the ARM Club show when I find out that it is cancelled, I suffer I really do. I send off cash for things that I was going to purchase or upgrade at the show but it is not the same, because I can and indeed do that much of

the time.

As a treat I decide to go 'Broadband'. I inform Telewest and find out where I have put my copy of NetFetch and on the appointed day cable is run NetFetch is installed, the boxes filled in as per, the cable modem plugged in and orf we jolly well go. What is this? it doesn't seem any quicker than Dial up, going to the Blueyonder status page informs me that there are problems with broadband, news and email. "C'est la vie" or some such. Eventually I receive a full download of all my newsgroups and mail and start to read, deciding to reply to a mailing list posting I post off a carelessly composed missive. I get an error from Hermes; "5.5.4 : Invalid address." I go through all my settings; everything seems to be OK so I phone the Blueyonder help desk and am asked repeatedly to run my Blueyonder Broadband installation disc despite telling the dimwit on the other end of the phone line that I am not running a Windows machine. The wish for a stout cudgel and a solid location of said person is on my Christmas list.

The inability to post has not been too much of a problem as most people are more than happy not to

hear from me and hopefully by the time you read this I will have sorted the problem out but if I don't, just remember that I can see you and what you are up to.

Thanks to several cunning plans and soulful wheezes (chest type) Christine is weakening over my desire for an A9 when a double whammy strikes. First I return home from work to be informed that the freezer is leaking and she is right. I say that we will buy a new freezer but Christine says that she no longer wants a separate freezer and fridge but wants a freezer/fridge. There is a problem: our cooling gadgets are large, the freezer is jam packed and the model that Christine has her eye on will not be able to hold the freezer contents. I look at the freezer again and by effecting a temporary repair that will keep it going for a while, plan to eat several hearty meals till the contents left could be crammed into their new home. Maybe even up to the sales.

I buy a suitable thermometer so that Christine can keep an eye on the freezer temperature and settle down to trying to find where she has hidden my Christmas presents when again my ghaſt is flabbered, this time by the news that the

washing machine has decided to call it a day. The purchase of a washing machine cannot be postponed so off we trot and spend what seems excessive amounts of lolly on a top loading washing machine.

In the meantime I hear the news that I can go to a ball, I mean show, after all and it is only a bus and tram ride away.

This news heartens me so much that I agree to decorate the kitchen and have just put away the decorating materials when the financial advisor informs me that owing to purchases of large electrical items, purchase of one small but powerful item must be postponed. I do not tell her that said item is not on sale yet and so am able to put brave face on before retiring to the brown pop shop. Besides there is always the next show.

[1]. I honestly believe that all of our managment team are ex Brewery entertainment managers, I leave the decision of why they are ex to you.

Upgrading a hard disc on an A7000+

In which Andy Burgess describes his problems upgrading a harddisc on an A7000+

I had been experiencing problems with my A7000. I had installed a 7GB disc that I'd acquired from a PC hardware expert friend. He'd written 'Dodgy' on the disk, but it had seemed to work. The only issues I'd experienced were with !Alarm, and !Organizer crashing occasionally with a RISCOS error before being closed down, and sometimes !LanMan98 would crash. Apart from this the system seemed fine.

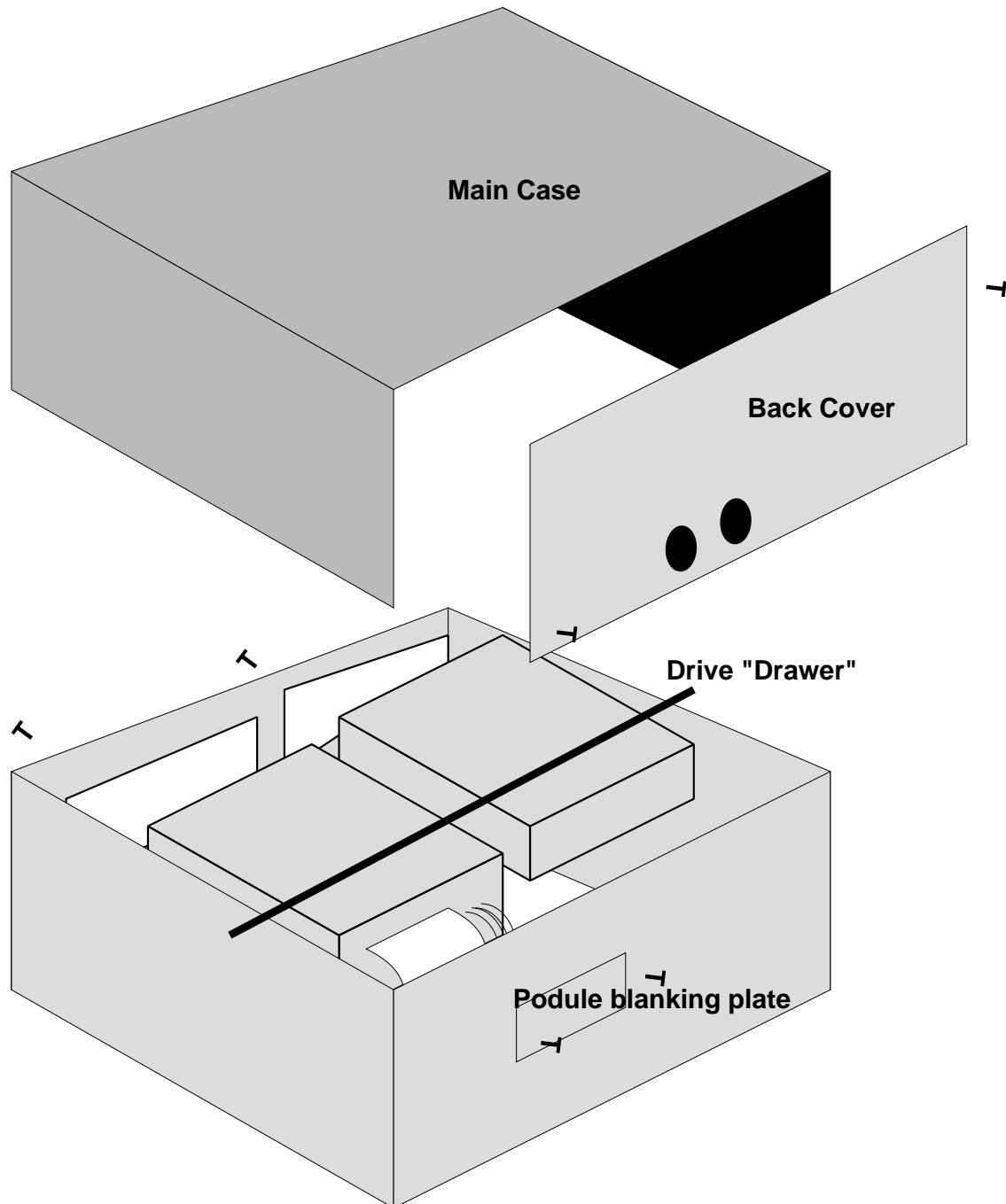
All the screws mentioned in this article are Phillips-style cross-head ones, and are marked with T's on the exploded diagram. First, I unscrewed the back of the machine, removed the back panel and the computer cover. Then I unscrewed the two screws on the front of the A7000 (hidden by the case when fitted) to release the drive 'drawer' (as I call it). Push the drives back through the case holes, and lift up the rest of the 'drawer' which hangs

over the case.

Carefully raise the drive 'drawer', and disconnect cables (IDE, ribbon cable) and Power supply from the back of the CDROM drive. If you don't have a CDROM or any other IDE drive connected, locate the wide ribbon cable (about the height of a credit card - 2 inches/5 cms), and the power connector - a four-contact opaque white plastic connector (about 1/2 height of a credit card (1", 2.5cm), and 1/4" (1cm) wide) with colourful wires - one red, two black and one yellow.

I removed my podule blanking plate, by unscrewing the two little screws on the back, and pushing the plate through the machine. You should really replace the computer cover, but it's not essential. I poked the IDE ribbon and the power cable out of the back through the podule hole so I could rest the new hard disc on top of the machine.

Conventionally the IDE cable will have some indication for 'pin' (wire) number one. This is normally red colour the whole length of that wire



on the ribbon cable. This, invariably is the side of the IDE cable that's nearest to the power supply connector on the disc itself. The power connector will only go in one way!

Happy I'd connected everything up

correctly, I booted up the A7000. The machine sounded a bit noisier (but quieter than a PC) due to the second disc. RISC OS4 started up frighteningly quickly, and only showed one hard disc (as I'd expected). Instead of my usual 1024x whatever screen, I had a

standard, basic VGA screen display. I clicked on the hard disc icon for '4' - my usual disc had been named 'HardDisc4'. I got the scary message:

"Error when reading ADFS::4.\$ - Disc not understood - Has it been formatted?"

However, I knew straightaway what the issue was. I hadn't reset my new disc to be a 'Slave' rather than a 'Master'. On an IDE cable one drive has to be the 'Master' and the other the 'Slave', otherwise the electronic circuitry cannot determine which disc to boot from. I powered her down again!

I looked at the back of the drive - with the manufacturer label (Maxtor) on the top, electronic circuitry on the bottom, I looked at the rear of the drive. The Multi-way IDE interface connector on the left, more connectors in the middle similar to the IDE connectors, and the power supply connectors on the right. The manufacturer's label had the following advice Jumper-J50, Master/Single-On, Slave-Off. Turning the disc over to see the electronics again, I noticed at one end of the middle connectors, was the number 50 written in white on the green circuitboard. This is jumper 50. There was a black

'jumper' (a metal contact sleeve joining two pins together) joining the connectors, by the number 50. Quoting the instructions on the top this meant that the drive was a 'master', and in order to make it a 'slave', I'd need to take off the black jumper, using fingernails or a small pair of pliers.

I retained the 'jumper' for later - when I'd want the drive to be a master again. I reconnected the drive and powered up. "That's better!" I thought as the 'Supervisor' mode loaded my Toolbox etc, and brought up the correct-looking RISCOS desktop - with the usual icons: CD, HardDisc4, Floppy (:0), Apps etc appearing.

Now the fun bit - double click !Boot to give the configuration window, and select 'Discs'. Use the arrow to increase the number of IDE Discs to 2, but leave the CDROM drives as 1. I got the expected warning message: "Changing the number of discs is potentially dangerous. Any files that are in use will be closed. Proceed with the configuration anyway?"

I ensured all my task bar apps were closed, before committing myself, though I left an !Edit session running - just to prove what it said, though I forgot to check! It thought about things for a little while, and

then the desktop came back with my usual icons, the disconnected CD (had changed to :0), a hard disc labeled '5', another hard disc labelled 'HardDisc4', a Floppy disc icon (:0) and the usual Apps icons etc. A new hard disc icon had appeared next to the CD - and was called '5' for hard disc 5. The first hard disc on a RISCOS system is numbered, 4, second 5 etc.

Clicking on the '5' gave the expected:

"Error when reading ADFS::5.\$ - Disc not understood - Has it been formatted?"

This time the error was valid. I had last used the disc on a PC system, so it wasn't formatted for RISC OS. Incidentally, it didn't have any partitions on it at all, I'd eradicated these on the PC.

Then I went into my Utilities directory and double-clicked my seldom used !Hform application. This application should be used with care, as you could potentially destroy all the data on the disc you don't want to lose data from! Once double-clicked, the RISCOS desktop is replaced by an old-fashioned system screen like I remember typing in from BBC Micro magazines - saying:

HARD DISC FORMATTER
- (V2.52 01 Dec 1999)

Format which drive (4-7)4

Don't select the default option of 4, but instead change to 5. It should confirm the hard disc type - I got:

Drive 5 is an IDE drive

Cylinders = 10585 Heads = 15
Sectors = 63

IDE Drive ADFS:5 identifies itself as :

Description : Maxtor 85120A8

Firmware Version : AA8Z2726

Configuration : 10585 cylinders, 15 heads and 63 sectors/track

This drive supports the LBA (Logical Block Address) option.

This drive does not currently have a valid ADFS format.

The drive type does not match any of the standard drives known by this program.

Provision for a given drive type in this list does not imply that the drive is suitable for use in Acorn equipment

1. Conner Peripherals 40MB - CP3044 (2SA4.53 firmware)

2. Conner Peripherals 42MB - CP2044PK (1.14 firmware)

3. Conner Peripherals 63MB - CP2064 (1.14 firmware)

4. Conner Peripherals 210MB - CFS210A

5. Conner Peripherals 270MB - CFS270A

6. Conner Peripherals 420MB - CFS420A

7. Conner Peripherals 425MB - CFS425A

8. Conner Peripherals 850MB - CFS850A

9. OTHER

Which make of hard disc (1 to 9) ?

I selected 9, then it continued to ask me questions:

Sectors per track ?63

I chose the default of 63

Heads ?15

Again selected this

Cylinders ?10585

Again the default

Drive parameter init flag ?1

Huh? Just take the default

Drive LBA flag ?1

Ditto

Parking cylinder ?10584

Ditto

A: no more changes to defect list

B: add defect by cylinder, head, byte/sector

C: add defect by disc address

D: remove defect

A, B, C or D?

This, according to the RISC OS 3 User Guide is a place to add known defects to a defect list for the hard disc. This is a fairly new disc and I'm not aware of any defects, so I chose A. !HForm came back with the following:

Disc will be formatted as :

OTHER

10585 Cylinders, 15 Heads and 63 Sectors/Track

Parking Cylinder 10584, Initialisation flag 1, LBA flag 1

Format or just initialise the drive (F/I) ?

If you select F-format, then go away and don't come back for a very long time - a number of hours! This is not a conventional format process - like formatting a floppy disc. It is what's known as a Low-Level format (I think), and prepared a hard disc for first use (or the parameters entered for the format were incorrect). It's not an issue to run it again, but it will take up lots

of time! I don't know the impact of abandoning the process mid-way, but I wouldn't advise it! Most hard disc are already pre low-level formatted. The better option to select is I-Initialise (for ADFS format) I found out after reading my manual too late! Eventually, I got:

Soak test the hard disc for defects (Long/Short/None) ?

I chose N-None, though this can be done to ensure that the state of the defects on the disc are stable. Again this is not a normal reformat option, but for a first-use disc. A long Soak Test should be done over 24 hours, according to the User Guide

Do you wish this to be a bootable disc (Y/N)?

I chose N-No (I'll do this later).

Do you want long file names on this disc (Y/N)?

I chose Y-Yes

Are you SURE you want to do this to drive ADFS:5 (Y/N) ?

I chose Y-Yes, and expected to have to wait a while for ADFS to format the drive. It gave me

Formatting

1

and the numbers slowly increased. It's time now to leave the Acorn to get on with it! It will take a number of hours! Note these numbers match the 'cylinders' number. So for the above it completes with:

Formatting

10584

It will then ask the question:

Large file allocation unit ?1024

Just leave the default unless you're intending to use several thousand small files - change to 256.

Writing defect list

Creating map

Writing map

Writing root directory

Bytes free &00000001312F3400

= 5,000,141K bytes

Bytes used

&000000000013DE00 =

1,271K bytes

Press SPACE or click mouse to continue

I pressed return!

Clicking on the new hard disc icon labelled '5', gives a filer window like

the size of a blank floppy disc, but Labelled 'ADFS::HardDisc5.\$'.

You can now use this disc:

Menu-Name Disc will add the correct name of HardDisc5 to your icon bar.

Menu-Free gives

Free 4G Bytes

Used 1271K Bytes

Size 4G Bytes.

Now for the fun part - duplicating the hard disc! Copy all the files from Hard Disc 4 to Hard Disc 5 with your favorite copy method!

Many hours afterward (probably about four or five) I had a duplicate copy of my hard disc.

Right, now I had to make it the 'live' disc. In RISCOS, I went into F12 - command mode, and entered

*OPT4,2

To set the disc to run the !boot file. It's nice to see that Acorn have a really nice, simple way to make a hard disc bootable - pretty much unchanged from DFS (*DISC) floppy days! PC's (prior to Windows XP) had to have three (hidden) DOS files to boot up from.

After shutting down the computer, I disconnected the old hard disc (data

cable only), and reconnected the new disc. I rebooted the Acorn to get a flashing cursor, and nowt else. The 'RISCOS 24MB' banners didn't appear. Great!

I then realised I'd forgot to put the jumper back in - so the disc was behaving as a 'Slave'. I put it back in. You can normally only boot from a 'Master'. Nowt again, but the flashing cursor. "Bum!" I thought. I started getting ready to put the old hard disc back on line (removing the jumper on the new one), and as I started to do so that the new disc data cable fell out. I hadn't put it on properly! That's why it wasn't working! I plumbed it back in and started up. Again the same thing!

I wondered about pulling my hair out, then realised I didn't have any to pull out - I'm bald anyway! I twigged the problem with the jumper, so jumper back on J50, and power up again (old disc still disconnected). Off we went, and I got the long-awaited

RISC OS 4.02 24MB
ARM 7500FE Processor
Acorn ADFS

at last! Once the desktop opened, I got a new error message: "Please insert HardDisc4". My new disc was labelled HardDisc5, and some

software had tied the directories to a disc labelled HardDisc4! Once I'd cancelled or quit the incorrect disc messages, I tried to rename my hard disc - but the 'menu-Name Disc' option was unavailable in the desktop.

I rebooted into supervisor mode - powering up holding down the * key. I did

. a

to give a small list of files.

This told me the following:

Dir. ADFS::HardDisc5.\$A4 Option
02 (Run)

CSD ADFS::HardDisc5.\$
Lib. ADFS::"Unset"
URD ADFS::"Unset"

and the file list. I entered the command:

*help namedisc

which told me the syntax of the name disc command

*NameDisc alters a disc's name.
Syntax: *NameDisc <disc spec.>
<disc name>

I entered the following command

*NameDisc 5 HardDisc4
and of course got the error:

Disc drive not known (Error
number &108AC)

before I entered the correct
command - as the other drive wasn't
present, and this was a master disc,
it's number had changed from 5 to
4!

*NameDisc 4 HardDisc4

This gave the expected for * prompt
indicating it had worked! To be sure
I issued

. a

and now got:

Dir. ADFS::HardDisc4.\$A4 Option
02 (Run)
CSD ADFS::HardDisc4.\$
Lib. ADFS::"Unset"
URD ADFS::"Unset"

Success! I control-broke to reboot.

I then unscrewed and removed the old
hard disc, and screwed in the new one.

Now the new disc is live, I still
have my problems with !Alarm
and !Organizer. I subsequently
found out that this is probably
due to duff memory - though I've
yet to physically change this!

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Winning Games With Logic

Part 12

Barry Aulton continues with another instalment in his quest for the perfect game.

Thus far we have had a look at the thorny problem of navigation as a what do we do in the here AND now '?' situation. But for a game involving many obstacles that are close to each other, or a maze type game, knowing :-

- A) where each computer controlled character (CCC) is
- B) where it's nearest obstacles are AND
- C) its destination may not be sufficient.

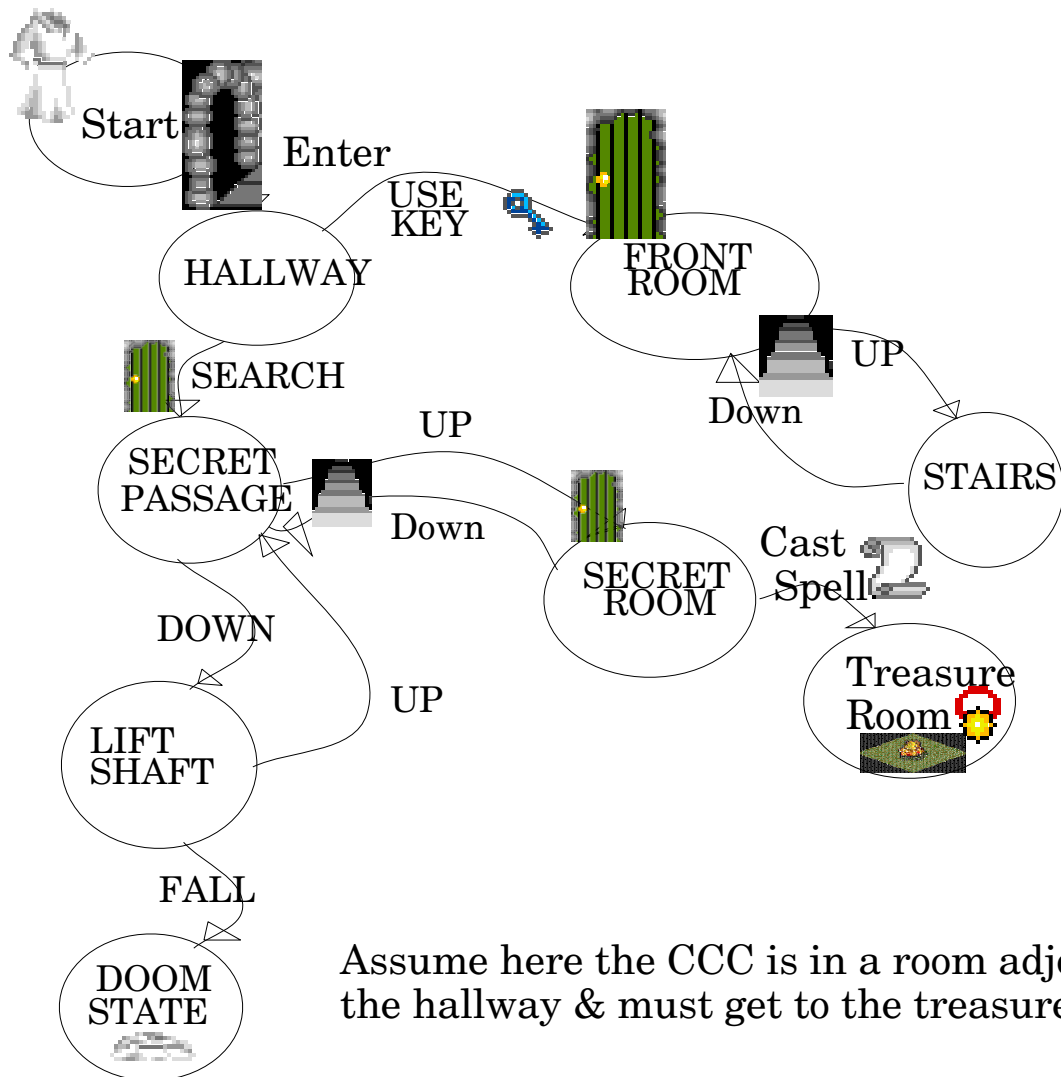
How would we get the CCC from one room to another non-adjacent one as in fig 1)? In general each game object could be in one of several 'states' at one particular time, for instance a door may be in states {Locked, Closed (but not locked), Open} (Think of state as a unique situation the game object is in).

What could a state be when we have a simple computer controlled

character (CCC) who must navigate a maze? One idea is that a state could simply refer to the room, building or grid square the CCC is in. The set of states would refer to the set of possible rooms etc. that the CCC can enter. This is a discrete set since the CCC cannot be in two different rooms at the same time. We can then define the goal state of the CCC we are trying to control as that of it being in the destination room (treasure room in this case). We can then search for a way of moving the CCC from the room it is in to the destination room. This is thus a navigation problem again.

Using this notion of 'states' we can think of a more complex game object as a collection of states AND some means of getting from one state to another i.e. a Finite State Machine (FSM). FSM's are almost ubiquitous in game programming code. They don't solve every problem AND some objects (e.g. the BOSSBADDIEBUGLATTERBEAST) may need more complex representation , but if you have ever tried understanding a section of

Fig 1 Part of A Maze Represented as 'states'



Coding some things entirely with ands & or, s can be very tedious . With an FSM you can see things graphically .
 Nb. Strictly speaking , the bubbles in the above example aren't states . However an FSM representation is usefull.

code with > 20 if statements in you will appreciate the black box notion of FSM's. "(Teacher to pupils - It's quite simple - if you do not have your breakfast before 8am AND you normally put your coat on the upper coat rack , place your coat on the lower rack unless the rack is fully occupied in which case you may use the upper rack unless the 6th form are already using it" - see how life is getting complicated!

Assume that your CCC is hungry and must purchase food. (Yes I know there are not many baddies in a game that break off from mindlessly attacking AND suddenly get a penchant for sweets but this is just the sort of thing a player's character may have to do in a maze game. It is far more realistic to have the baddies doing the same things.

Fig 2 shows a representation of a vending machine, but how would its' logic be represented in a game? Let us first represent the m/c as some sort of black box that converts inputs to outputs. Fig. 3 shows that the possible inputs are {Small, Large, 10P, 20P or Cancel}, where Small, Large AND Cancel mean press the respective button AND 10P AND 20P mean insert 10P or 20P into the machine. The outputs from the m/c are change if any AND small or large sweets if enough money has been inserted. (ignoring the bent or foreign coin that could be inserted). But of course if you could just push a button AND obtain a sweet the m/c would rapidly be emptied! This does not stop people from kicking the things AND expecting results! Before the m/c dispenses a sweet it must 'decide' if sufficient money has been

Transition Table

	Small	Large	10P	20P	Cancel
S0	S0,{}	S0,{}	S1,{}	S2,{}	S0,-
S1	S0{Small Sweet}	S1,{}	S2,{}	S2,{Give Back-10P}	S0,{Give Back-10P}
S2	S2{Small Sweet,Give Back-10P}	S0,{Large Sweet}	S2,{Give Back-10P}	S2,{Give Back-20P}	S0,{Give Back-20P}

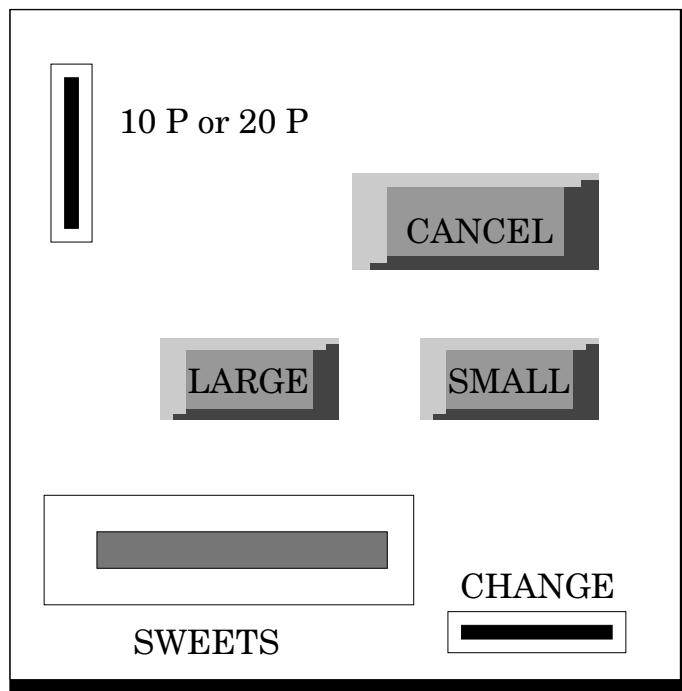


Fig. 2 A Sweet Vending Machine

It accepts 10P or 20P coins and dispenses small sweets (price 10P) or large sweets (price 20p)

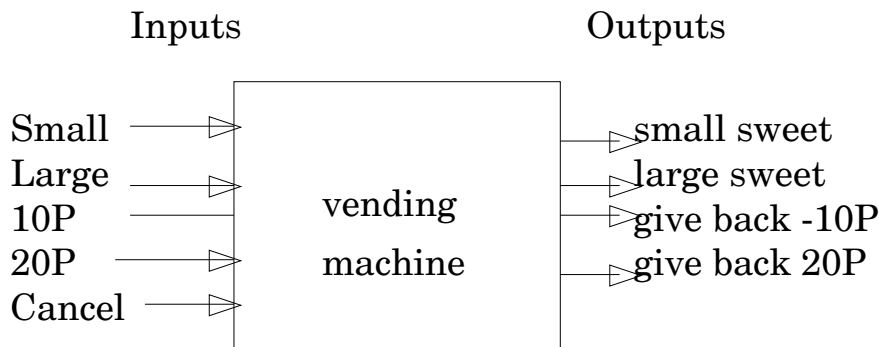
entered. From this we can deduce that the m/c can be in 1 of 3 states, namely S0 - no money entered, S1 -10P entered, S2 - 20P entered.

We can now fill in a table called a 'Transition Table' (*see page 45*) for each of the m/c's 3 states that will indicate what the m/c should output on being presented with each possible input {Small, Large, 10P, 20P or Cancel}. E.g. if the m/c is in state S1, 10p has been entered, entering a further 10P will put the m/c in state S2 (20P entered), but no sweets dispensed. Notice that

money must be entered first. The complete table is shown below AND a graphic representation of the table is shown as Fig 4.

Here the only way the m/c can change its state is by performing an action (the m/c output e.g. Give Back 10P in reponse to an input e.g. Cancel Button hit. We thus have a type of look up table called a Finite State Machine (FSM). What have we gained with all this? Mainly reliability. You may think the guy that wrote that long list of if - then - else statements would know how

Fig. 3 The Vending M/C Seen in Terms as Inputs & Outputs



The vending machine accepts 10P or 20P coins and dispenses small or large sweets. When it receives too much money, it gives back change. The machine can be represented as a black box whose inputs are the external events, (insertion of a 10P or 20P coin, request for a small or large sweet or cancel) & the outputs are the commands which trigger the machine's operations (dispensing a sweet, giving change)

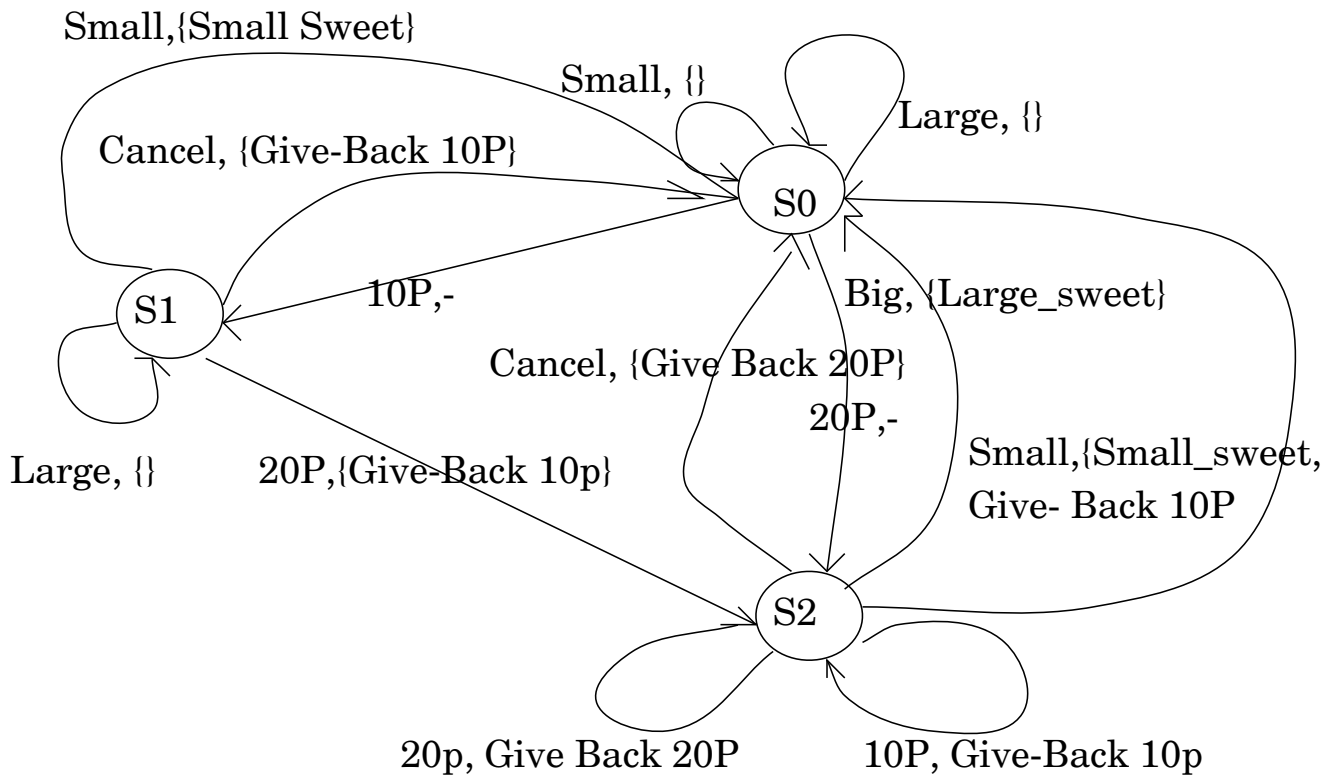
the game would behave? Wrong! He only thinks he does! By representing each object in the game as a FSM you have isolated it from everything else. Note that providing you can represent each game object as an FSM e.g. the sweet vending m/c in game logic (e.g. the CCC must have the correct money be in the room where the m/c is in AND pressed the correct buttons in the correct order), complex planning situations can be solved. (E.g. your CCC may have to find its way to the treasure room to get the money, AND hence must

find the secret passage e.t.c.) We are still left with the nitty gritty of how best to represent the game object as an FSM, and how to link FSM's. There is also as you can see from Fig 4 a limit to FSM representation in that any FSM that is much more complicated, may be wrong, leaving some states unattainable or too easily achieved, which is why some people kick vending M/c.s

To get your CCC from say state 'in hallway' to state 'in treasure room' we can use a 'boiler plate' planning (i.e. search) technique, which will

be discussed (among other techniques) next time.

Fig 4 The vending m/c shown as a Finite State M/C



A transition is a means of getting from one state, which can be represented by an integer, to another state. In each transitions' structure the conditions & timing conditions can be stored and accessed whenever required.

State numbers can refer to any object type .

Eg for an arcade adventure game, the main hero may be represented as walking, running, jumping, crouching, firing etc. A transition from say state 2, walking, to say state 4, jumping may include a condition that he won't hit a ceiling

Free for All

Andy Burgess's latest look at the PD scene

GNU C compiler under RISCOS

I have been doing a lot of work using the GNU C compiler under a piece of (basically) Linux-emulating software, called Cygwin on a PC. Now I like UNIX systems, but their beginners documentation leaves a lot to be desired. I struggled away with it, and managed to produce some C programs - which only ran in the Cygwin environment. I really wanted to be able to create standalone programs and wanted to test a program I'd downloaded, so I turned back to my trusty A7000.

I downloaded the GNU C compiler from the website **<http://gccsdk.riscos.info>**.

I wanted the C++ compiler as well as the basic C compiler, so downloaded the following files:

GCC base - gcc.zip

C Compiler - cc1.zip

GCC documentation - gccdoc.zip

System modules - system.zip (adds file

!System.310.modules.SharedULib (v1.07)

C++ compiler - cc1plus.zip and various utilities - utils.zip (which I haven't used yet)

Again I had problems with my (free) Sparkplug overwriting files, Dave Ruck tells me there's a commercial version of Spark which doesn't cause these problems with long filenames. I turned to Windoze XP to decompress the files for me. I then had a folder called !GCC (which all archives will decompress into) which I copied back across my network to my favourite OS. I tried to run it - it didn't. I then had to change the file types of everything under !GCC.bin (short for binary) to 'Absolute', with the exception being those under !GCC.arm-risc-aof.3_4.apcs32.rma.libsclo - to be 'Module' and all the rest of the C files, examples and include files etc to be 'text' - though I'm not sure if setting the text files was essential. This eventually got GCC talking to me. I followed the instructions in the Examples file to compile the obligatory C program - 'Hellow' - to print "Hello World" on the screen. I issued the command, like the

manual said (and would work faultlessly on UNIX) - in a Task Window (or F12) on RISCOS:

```
gcc hello.c
```

This should compile the program 'hello.c' and generate an executable from it. Note that GCC (and G++) on Acorn uses Acorn's directory structures for what would be the UNIX or PC 'Extensions' - e.g. hello.c on a PC would be c.hello on RISC OS. This is much like Beebug C on the BBC or BBC Master, if you ever used that.

GCC went away and thought about things for about 20-30 seconds, before it returned with the star prompt. Then I noticed the !Runimage file in my Samples directory - it had created an executable. Double-clicking on this gave another task window with the program running within with the following displayed:

```
Hello World
```

Press SPACE or click mouse to continue

Hoorah! My first ever Acorn excutable! An 'Absolute' is loosely equivalent to the PC's EXE file.

I had also been struggling to

remember how to link two C programs together - so you could share the code with one or many programs. I knew about header files blahblah, but didn't really want to do this. I couldn't find anything to explain this simply in my C manual or on the internet. Guess what, good old RISC OS helped me out here again! The 'Examples' text file told me in really simple terms how to do this for the Dhrystone programs dhry_1 and dhry_2.

I compiled following the instructions, and ran the program, receiving the rather unhelpful "Program compiled without 'register' attribute". "Huh? what the bleedin 'eck does that mean?" Looking through the code, I saw that for some reason, the previous printf statement was being displayed after the prompt for input. Entering a number like 10000 would run the program successfully!

I then tried a C++ program. I issued initially:

```
gcc helloworld.cc
```

Fully expecting it not to compile properly, and it didn't, but it took probably a good minute on my A7000 to tell me! It moaned with cc1plus: out of memory allocating

65536 bytes after a total of 3555328 bytes

So that's what Cygwin's GNU (original) C compiler means - "I'm out of memory!", rather than it's unhelpful "core dumped" or whatever message! Again the 'Examples' document told me my error. I should use the GNU C++ compiler - called 'G++'! Again, something I can take back with me to the PC! Again, a long time period elapsed, before it gave me the same error!

"Hmm!", thought I. It says in the instructions that I need at least about 5MB of memory free in 'Next'. I checked my task manager - 3MB free! "That won't help!" I closed down !Pluto, which seemed to be using a substantial amount of memory, and ended up with loads (9MB) free. I ran the initial gcc helloworld.c command again, and after about 5 minutes or so it gave me a whole list of errors pertaining to C++ functions that I was not referencing by using the 'classic' C compiler. I reissued the C++ compiler command:

```
g++ helloworld.cc
```

Again the long - get a cup of tea? - wait, and finally, the star prompt! It had compiled! It ran (quickly) too -

all that work for that simple program! I now tried the acid test. I'd downloaded a file from the internet to connect remotely to servers (e.g. POP and SMTP) from **<http://www.taiyo.co.jp/~gotoh/ssh/connect.c>**. I copied it to my GCC example folders and took off the 'c' from it's PC name, and put it into my c directory. It now resided at 'ADFS::harddisc4.\$apps.!GCC.examples.c.connect'. Nervously I compiled it (it was 'classic' c)

```
gcc connect.c
```

again a while for the compile - with two warnings that I ignored (I'm used to PCs), and it came back with the star prompt. I ran the program with no parameters from my task window:

```
connect
```

and it gave me the USAGE message I was expecting:

```
Version 1.95
usage:
/ADFS::harddisc4.$/apps!/gcc/examples/connect [-dnhst45] [-p local-port][[-R resolve] [-w timeout]
[-H proxy-server[:port]]
[-S [user@]socks-server[:port]]
[-T proxy-server[:port]]
[-c telnet-proxy-command]
```

host port

Good news. I then tried connecting to my POP server - with the port number of 25:

connect pop.orpheusnet.co.uk 25

On the PC, this same program under Cygwin was doing strange things - like accepting commands, but doing nowt with them, and I

wanted to prove the program's worth on another environment. On RISCOS, however, it performed perfectly. I could then enter my user id, and password and connect to my mail on the remote server. Good ole RISC OS! What a great environment! I found out that the Email checker on the PC was preventing a communication with the server.

New committee members

New committee members are always welcome. Please get in touch with our chairman David Ruck at

druck@armclub.org.uk

if you would like to contribute more to the club.

Being a committee member is not an onerous position, we have only one meeting a year. The benefit of becoming a committee member is that you get free membership of The Arm Club.

Druck's Support Tips

John Rickman has been having problems with
Workspace/Windworks booting.

When the machine starts it pops up a dialog window with title: "Message from Window Open" and the message:- "WO_WorkspaceModes 'Filer' 'temp' task/window not found" The error is triggered by a line in the obey file !JRDesktop which is invoked from !Boot.Choices.Boot.Desktop - see extract below:-

The problem is both WindOpen and Filer_OpenDir are commands which flag their associated WIMP application to perform an action at a later time. Whilst each will execute any pending actions in the order given, the relationship between the two can't be guaranteed. The solution is to introduce a delay in the execution of WindOpen actions to allow the Filer to open its windows.

Desktop (extract)

```
|Start Acorn BootRun 0.01 Run
IfThere Boot:^.Apps.J1.!JRDesktop Then Filer_Run
Boot:^.Apps.J1.!JRDesktop
|End
```

Extract from !JRDesktop :-

```
Filer_OpenDir ADFS::HardDisc4.$.temp 10 1000 210 400 -sn -si
Filer_OpenDir ADFS::HardDisc4.$ 10 2360 210 1300 -si
```

Druck's advice was to

Insert a:-

```
WO_Wait 100
```

here.

```
wo_windworks "Filer" "ADFS::HardDisc4.$.temp" -all  
wo_windworks "Filer" "ADFS::HardDisc4.$" -all
```

This will delay the execution of the above_ command by 100cs (one second). This should be a sufficient delay to allow the filer windows to open, more or less can be tried.

Stuck with RISC OS problems?

Want to meet like minded people?

Share ideas and see new software!

Do you live in the West Midlands area?

**Are you interested in forming a
Midlands RISCOS User Group?**

Contact:

Ralph Sillett

email: ralph@silletts.freeseerve.co.uk

or

ralph@armclub.org.uk

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Remember that everyone who contributes an article Or photos to the magazine will have their membership extended, free of charge, for every issue in which their work appears.

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or eureka@armclub.org.uk

Copy date for the next issue of Eureka is
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**If it's urgent you can phone
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