

QL Today

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The Magazine about QL, QDOS,
Sinclair Computers, SMSQ...

*Inside this
issue!*

QL Today Insider-CD

Volume 10
Issue 3

by
Dilwyn
Jones

The QL/QDOS/SMSQ
Documentation

*Requested by
our readers!*

- SUDOKU
- Two QLis21 show reports with many pictures
- How to program little hint windows in BASIC
- ... and much more...

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The deadline for
the next issue is the
19th of February 2006

Would we QL-ers be making better use of our time if we spent less of it in front of our machines and more of it in bars and pubs?

This is not a facetious question.

In the last issue of QL Today we printed details of the QL documentation CD. Several readers asked for more information and what better way to give you this than as a cover CD? On this disk is documentation from 21 years of QL development. We QL-ers have worked hard for 21 years and can be proud of what we have achieved, but would we have come this far without our social contacts? The idea for a QL documentation CD came from a pub conversation the night before a workshop 3 years ago.

At QL is 21 the lecture room was busier than the main hall for most of the day. But from 6.30 in the evening until late at night we sat in the bar, had dinner together and then sat in the bar again. It was a pleasant atmosphere with unusual groups of people deep in conversation. As John Hall remarked, "What will come out of this?". Well, one thing has already come out of it. In this edition of QL Today you will read of interesting developments from conversations between Simon Goodwin and Marcel Kilgus.

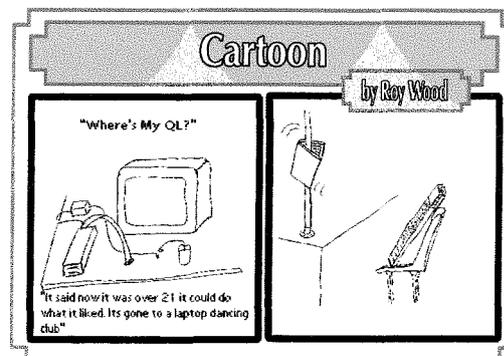
The atmosphere on the Saturday evening at QL is 21 has been echoed by numerous after show conversations in the New Canton restaurant in Eindhoven; by "after hours" at other continental shows; by social activities during the North American show weekends; and by the former Irish Republic "piss-ups".

Creativity and relaxation often go together. During our social moments many impractical and hair-brained schemes are discussed, but also seeds are sown that blossom into worthwhile QL projects.

The internet has provided us with a rapid means of keeping in touch with one another, and sometimes on the QL-users email group there are suggestions we should use these possibilities more. Some have argued, for example, that Quanta should hold all its committee meetings by internet or video conferencing links.

I have my doubts and much prefer the personal contacts. Perhaps some of the advocates of internet meetings are being more theoretical than practical. Indeed when I suggested on the email group that we could have some form of internet link with QL-ers worldwide at QL is 21, I received only one response.

One of our greatest strengths in the QL community is the international friendships that have been formed over 21 years. More recently these have been strengthened by internet contacts. Many of us now have "email" friends we have never met. Valuable though these are, there is nothing to beat the rare occasions when we are able to eat, drink and make merry together.



QL is 21 Software Updates

Two commercial programs (QDT and Launchpad) and one freeware program (QL2K) were updated by their authors for the QL is 21 show in Portsmouth:

QDT

The new functionality includes:

QDT: drag and drop - full desktop moves enabled

IconDraw: Colorpicker and background color check

Installer: detection of installed QDT database and fast updating of files

Work continuing towards the next release:

QDT: drag and drop - copies and execution
File Manager

Future updates will also be made available through downloads from the QDT web site so you won't have to wait for shows to get them.

Shortly after the show **Jim Hunkins wrote:**

I have posted on my software site the first pass for the QDT File Manager's folder. Between Thorsten's graphics and Marcel's update to Albin's Easy Menu (you are seeing the Easy Menu version), it really is saving me lots of time. Take a look and occasionally recheck the site. As I flush more details into it, I will update this site with newer captures and a breakdown of what the different windows are for and the full feature set. Also, for those who aren't able to get the updates from your distributors, I have posted information on how to get the updates by email through a link on the web site for now (please follow the simple directions completely to avoid delays). Direct download updates will be made available once I do some web site development to support it.

Software main page: <http://www.jdh-stech.com>

LAUNCHPAD

Dilwyn Jones writes:

I've updated my web site to reflect the fact that Launchpad v2.01 is now available from me. It will be available from other resellers shortly.

There is a demo version and some sample screen shots on the Launchpad page on my web site - from the home page, go to the About The QL section and follow the link to the Launchpad page.

Launchpad 2 needs a recent pointer environment (v2.01 included for QDOS systems) or SMSQ/E supporting Window Manager 2.

Version 2 of Launchpad supports System Palette colour themes (use QCoCo theme files directly, some samples supplied with Launchpad and QCoCo) and features a new shortcut toolbar at the top. It also features better support for background colours and images (wallpaper) than the old version as you'll see from the sample screen dumps. The accessory programs have been updated too (the new versions are included in the Launchpad trial version download).

For those people still not using Window Manager 2 the old version will remain available, but future development will focus on the new version, as it's so much better - it has more of the feel of a 21st century front end on systems like QPC2 for example.

Dilwyn also announced that in future registered users of Launchpad will be able to download upgrades from his web site. He has already emailed passwords to them. At the time of writing Launchpad had reached version 2.05. This version allows Launchpad to use the latest version of FileInfo.

www.dilwyn.uk6.net/gen/launchpad/launchpad.html

QL2K

Jimmy Montesinos announced a new version of QL2K (v0.1 Build 096a) which can be downloaded from:

<http://www.jadlam.org/QL>

Marcel Miscellany

Marcel Kilgus writes:

QPC Price

For those who have missed the all-time-low price we offered QPC for at "QL is 21", don't fear: to honour the QL's 21 birthday we have permanently reduced QPC's price to 60 EUR. That's a 40% cut, so I hope it is some inclination to finally jump on the bandwagon for the few remaining QPC-less souls out there ;-)

As a matter of fact, to not punish any user for having bought QPC earlier, this price has been valid for a few months now, we only now go public with it. Upgrade prices have been reduced accordingly.

SMSQ/E 3.11 for QPC

You'll probably have noticed that there was no

SMSQ/E 3.11 for QPC so far. There are 2 reasons behind this: 3.11 is mostly a maintenance release for all platforms OTHER than QPC, because it consists of numerous fixes that have been submitted by me to Wolfgang when I re-synchronised my sources with the official ones. The second reason: I've gained much too much experience over the years than to do hurried last-minute releases. It's usually more trouble than good.

Anyway, people wanting to finally get started to use Wolfgang's cool Home-Directory thing will be served soon. But I'd like to sort out some stuff first.

New QPAC2/Qascade

These two have also been amended by me to take advantage of the HD-thing. Release will follow soon. Let me also thank Thierry for updating FileInfo2, this was the essential missing bit in our whole endeavour!

Aurora-GD2

This is now free and its source-code will be delivered along with the official SMSQ/E sources. This also removes the problem of having 2 gold card versions.

New PE (Pointer Environment)

The latest releases of the PE for QDOS had numerous problems due to version conflicts in the source files. I have spend some time fixing those, and it seems to work fine again. But not having heard (m)any complaints I guess nobody really uses them anymore anyway.

Finally some "classic"

Simon Goodwin's talk at "QL is 21" has inspired me to do something. The first version actually already was capable of booting while I was still staying at Jochen's home :-). I did it just for fun and it's probably pretty useless, but have a peek at the result yourself:

www.kilgus.net/images/qpc-classic.png

Nearer Perfection

Malcolm Cadman writes:

The following software versions are being made available to download from my personal web site, on page:

www.mcad.demon.co.uk/lquan.htm

Available now:

Perfection v6a12 - size 68kb, an Update of QL Perfection Wordprocessor (c) Digital Precision 1993 - new version available as v6a12, authored by David Gilham of the London QL & Quanta Group

This version includes the new Perfection binary, together with new Configurator which has the TurboToolkit as a part of the binary, both are included in the Zip file.

This is to make the version compatible with as wide a range of QL systems as possible.

Please also look at the supplied Readme for contact details.

This enhanced version of Perfection takes advantage of the larger screens available with SMSQ/E and QPC2.

This distribution should be treated as an update only for current owners of Perfection.

To be available soon: (a reworking is currently taking place)

Shell v1.11 - size 182kb, an Update of QL Shell - (c) Adrian Ives - Freeware - new version available as v1.11 authored by David Gilham of the London QL & Quanta Group.

This version includes bug fixes and has better line editing features.

Together with the use of an additional library by Jonathon Hudson to work better on Q40/Q60 computer hardware.

Included is a new command - WMOV - to move and resize the main window, which takes advantage of the larger screens available with SMSQ/E and QPC2.

Available now:

Words.zip - Large Dictionary in qtyp format - suitable for QWORD by Rwap Software - size 969k. Additional dictionary adapted from a public domain source, by David Gilham of the London QL & Quanta Group.

A Tight Squeeze

SMSQ/E for the Q40/60 has now reached version 3.11 and with it comes a problem that it will soon have grown too big for the ROM chip that contains it.

Wolfgang Lernerz explains:

The current version of SMSQE for the Qx0 is about 250 KB long.

It was suggested to me that the home thing should be incorporated into SMSQE, which will make SMSQE for the Qx0 about 254 KB long.

We are now approaching very closely the 256 KB limit which the current ROMs for the Qx0 can handle. The other versions of SMSQ/E don't have that problem, since they are always loaded into RAM anyway.

I'm told that it might be possible to use larger Eproms on the Qx0 for this, to give us 512 KB of ROM space, which should be enough for the

foreseeable future. I have already tried to source these Eproms here in France, but have been unable to find any suitable Eproms (!).

Of course we could probably take some languages out and make them into independent LRESPPR files, thus making SMSQ/E smaller for the time being, but that is just a stopgap measure - soon we will face this limit again.

I personally am not really bothered by this since I generally load SMSQ/E into RAM even on a Q60. So I would like the resellers, notably, but also the Qx0 users, to tell me whether there are really users out there that will ask for upgraded ROMs for their Qx0.

If yes, how many? If it turns out that larger Eproms cannot be built into the Qx0, where do they suggest that we go from here?

Would they be content with the upgrades to be put into RAM?

The general consensus among Q60 users on the email users group was that loading into RAM was acceptable although a minority preferred retention of the ROM chip for security and occasional backwards compatibility. Peter Graf added that suitable larger EPROMS are available:

"It is possible to use larger EPROMs, but they are 4Mbit chips (256Kbit x16) which results in 1024 KB of ROM space.

There are several manufacturers and different naming conventions. The one which is at the moment easy to get for me is the 27C4002-100 from ST.

Derek Stewart of D & D Systems added that he had had only one request for SMSQ/E on EPROM, but it would make sense to use larger chips in order to give flexibility to the operating system authors.

The "Home Thing"

Two of our news items contain references to the "Home Thing". For those of us not familiar with the term, Marcel Kilgus provided an explanation:

"Let's say you have a directory win1_myprogs_ and a basic program win1_myprogs_test_bas.

If you now execute it using

```
EX win1_myprogs_test_bas
```

you can use, within the program, the function HOME_FILE\$

to get the string

```
"win1_myprogs_test_bas"
```

i.e. "from what file was I started", using

```
HOME_DIR$
```

you get

```
"win1_myprogs_"
```

i.e. "in what directory was I started" and some more features.

This can for example be used to store configuration files along with the program, like in OPEN_IN #3, HOME_DIR\$&"test_cfg" will load the file "test_cfg" that is in the same directory as your basic program, no matter where your program is located! No manual path configuration needed."

Bill's Last Stand

Veteran trader **Bill Richardson** has announced that QL is 21 will probably be the last show he attends. In his own words:

"Bill Richardson wants to clear a lot of his stock of QL and Z88 at very low prices and will probably be at his last show unless something else turns up. The QL may be 21,



but I am 87, and its time I should pack up, having sold over 4000 QL, and 10000 Spectrums and associated bits and pieces. I have had a great time, made many friends and I am now spending more time on the fringes of politics and writing, so very sincere thanks to all the friends I have been privileged to meet over 30 years or so."

An Old Friend

Dilwyn Jones received an unexpected message from an old QL programmer, Peter Jeffries:

"Hi, I was dusting of my resume, and a random google found my name (Peter Jefferies) mentioned by you in a QL thread, in April this year.

I'm very glad the QL is still going, and sad I missed the 21st year reunion. I guess I'm a traitor moving on to video games.

P.S. latest: www.midway.com/rxpage/

[Game_MortalKombat:ShaolinMonks.html](http://www.midway.com/rxpage/Game_MortalKombat:ShaolinMonks.html)

Still I've been California for 10 years now writing violent video games and enjoying the weather and missing the pubs.

If you remember, drop me an email when there is another 30th? reunion."

Dilwyn reports that Peter Jefferies wrote a number of programs for Sector Software (Taskmaster and Flashback for example) and also had connections to an early disk interface manufacturer.

Quantum Leap Software

Phoebus Dokos writes:

Please add to the news for next issue that my mailing address has changed to:

Quantum Leap Software - Phoebus Dokos

1037 Hartman Drive

Indiana, PA 15701 (USA)

Gee Graphics! (on the QL ?)

- Part 44

by H. L. Schaaf

Continuing on from GG43

If we are given a Lamé curve we can now calculate the area and length. To seek other Lamé curves with the same area, or with the same length, we can alter the two end points $Lama$ and $Lamb$ and we can alter the two exponents $Lamn$ and $Lamm$. If we keep two parameters as given, and change a third, might there be a solution for the fourth parameter that results in a Lamé curve with the same area, or same length?

This is the sort of question I had in mind at the end of GG43 where we also asked about finding Lamé curves where arclength was equal to area under the curve, such as the quadrant of a circle with radius 2.

Lamé curves where arclength = area? Well of course we can't mix dimensions, so it is silly to have linear length in inches equal to area measure in square inches. Comparing apples to oranges, etc., but the number of apples could equal the number of oranges, and the number of linear units could equal the number of areal units.

It appears that there are infinitely many such curves.

To make it simpler, I thought about straight lines, when both Lamé exponents are 1. First I tried to find a symmetrical case where both axes are the same. A little algebra convinced me that if

the axes were both $\sqrt{8}$, then the length of the diagonal would be 4 and also the area of the triangle would be 4. Next I set up conditions when the axes were not equal, and to my surprise found that all solutions (where the diagonal straight line segment had a length numerically equal to the area of the triangle) were tangent to the circle of radius 2. This could be a well known theorem in geometry, anybody recognize it? I passed it on to a math professor at the University of Delaware, who said he'd inflict it on his students.

Again to keep it simple, I reasoned that for both Lamé axes equal, and both Lamé exponents equal, there would be a whole family of Lamé curves where the axes were between 2 and $\sqrt{8}$, with corresponding exponents between 2 and 1. Sure enough we found that to be true.

Listing

```
100 REMark tria21_bas
110 REMark HLSchaaf Nov 21, 2005
120 REMark for GG 44
130 :
140 REMark right triangle geometry
150 REMark ratio of area to length of hypotenuse
160 REMark circle radius = 2 * ratio of (area/length)
170 :
180 WTV : PAPER 0 : INK 7 : SCALE 12,0,0 : CLS
190 INPUT #0; ' ratio of area to length desired ? ';ra21
200 cirad = 2*ra21 : REMark circle radius
210 cirad = (2*ra21)
220 REMark draw first quadrant circle in green
230 INK 4 : ARC cirad,0 TO 0,cirad, PI/2 : INK 7
240 REMark show tangent lines
250 FOR angle = PI/32 TO PI/4 STEP PI/32
260   x = cirad/SIN(angle) : y = cirad/COS(angle)
270   area = (y*x)/2 : hypot = SQRT((y*y)+(x*x))
280   LINE 0,y TO x,0 : LINE 0,x TO y,0
290   ra2h = (area/hypot)
300   PRINT #0,ra2h,hypot,cirad
310   PRINT #0;" the area of the triangle is equal to ";area
320   PRINT #0;" and the length of the hypotenuse is = ";hypot
330   PRINT #0;" Ratio of area to length = ";ra2h
340   PRINT #0;" Radius of arc = ";cirad;' = 2 * ';ra2h
350 PAUSE
360 END FOR angle
370 :
380 REMark end of listing tria21_bas
```

In the first quadrant we find that there is a simple relation between the radius of a circular arc and the tangent lines to that arc, which set the ratio of triangular area to tangent line length.

The mercifully short listing `tria2L_bas` illustrates the simple cases when the Lamé exponents are 1. You are invited to put in a desired ratio.

Next I asked myself about Lamé curves with equal exponents greater than 2 and found that when the exponents were greater than 2, the axes were less than 2; when the exponents were less than 1, the axes were greater than $\sqrt{8}$. There is a zone of uncertainty when axes drop below 1.893 or so which is turning out

to be curiously fun to explore, and may be due to errors in rounding, or even in the algorithms I'm using. I find two solutions when the axes are 1.893, when both the exponents of 3.905742 and 5.006558 give Lamé curves where Area equals Length of 3.311347 and 3.40522 respectively.

If I can clean up the basic I used and get it into a 'neat' form I'll try to have that ready for the next GG.

My version of sudoku solving with the QL solves 9 out of ten, so I'll keep mucking about with it. The real challenge would be to knowingly create viable puzzles using the QL, anybody want to show us how?

What's that in the background?

by Marcel Kilgus

Definitely the most requested feature for SMSQ/E is background updating of covered windows. At least I got the wish a bazillion times. I usually just issue my standard answer of "yes, that would be great, but it's probably a huge job and I don't know anybody willing to do it", but last time was different. I don't know why, but back then I just fired up my trusty QD editor and went ahead, read hundreds of lines of code and produced a few more. Just for fun and out of curiosity. With that modification the PRINT command didn't block anymore and when switching back to the SBasic window it was updated to reflect the most up-to-date view. Very exciting.

From then on things were happening pretty fast. I was so drawn into the whole idea that I subsequently spent whole days improving the code, solving more problems and, most of all, adding a routine that updates the parts of the background window that are still visible. Everything came together far faster than I ever anticipated and, long story short, today I have a version that can do most graphics operations in the background without much if any noticeable slow-down.

When?

The next question I anticipate is "when will it be available", to which the answer always is "when the time is ripe". It works so well that I will definitely not be putting it back into my drawer, but good software takes time. I originally anticipated at least 3 months of development and testing, but currently it looks like it will be ready for prime-time a lot sooner. I've been working on a lot more parts of SMSQ/E, too, and these additions and improvements will be released first, though.

How much?

Even though I could have done so, I have decided not to do this as a commercial add-on but will donate it to the SMSQ/E project as a whole. Still, a lot of time has been put into this feature for it to work so flawlessly, I actually became a full-time SMSQ/E developer for a while to pull it off. Good thing that I'm still a student... So if you're one of the people that have waited for years for this feature to become reality, do like my solution and want to voluntarily give something back in return, you will not hear me saying "no". After QL21 I not only got bills but also speeding tickets (well, one) to pay! At least give me some feedback, please.

For which?

It works in QL colours and in both 256 and 65536 colour mode. I designed the code to be platform independent, so it should work on any machine that runs SMSQ/E. Currently only a QPC version exists, though, which is the ideal platform as it incorporates an accelerated screen driver that can do block moves (and thus the whole background updating) lightning fast. The updates are done asynchronously and will automatically happen more seldom on slower platforms. I expect the Qx0 to perform noticeably slower than QPC while still having a decent performance, the speed of the Gold Card version remains to be seen. At least some more tuning will probably be needed there. In any case the whole mechanism can be globally turned on and off, with the default probably being off to maintain compatibility.

What about PEX/PICE?

Even though my code was developed completely independantly, there have been predecessors, namely the PEX/PICE combination. PEX did the job of letting applications continue in the background and PICE periodically redrew all hidden windows. In essence, what I do is pretty similar to this duo, the main difference being that my code is much more integrated into the pointer environment. More calls can be executed in the background and while PICE did have to redraw all windows all the time my code knows what windows have been changed and can thus work much more economically. Plus, of course, only my code supports the higher colour modes. PEX, on the other hand, was much more configurable and came with lots of new Basic commands. So far my code worked so well that this didn't seem necessary, though.

How?

A short summary for the technically inclined: when a window overlaps another, the PE automatically saves the contents of the overlapped window into a memory area called the "save area". When the window subsequently gets picked to the top the area is restored and the job

can continue to work. All drawing calls normally only work directly on the screen, i.e. when the window is fully visible, otherwise they block. My code now make the draw routines believe that the screen memory is really located in the existing save area of the window. As this is exclusive to the window, the call can always succeed and doesn't need to block. The window is then entered into an update queue, which the system periodically checks and when necessary copies any visible parts from the save area to the actual screen. The code used to check which parts are visible is a classic recursive "divide and conquer" algorithm, it keeps dividing the window until it finds all whole rectangles that are not covered by other windows.

Finally

I really hope you find these developments as exciting as I do and perhaps motivate you to spend more time with our beloved system. Or dare I say even create some new applications?

You can find out whether updates are available by looking at Marcel's website from time to time:

www.kilgus.net



JUST WORDS!

FREE NIGHTIES!

Four years ago Just Words! published its rhyming dictionary using the slogan "Flighty Aphrodite in a mighty nightie". Since then the program has been used by a small, but enthusiastic, group of buyers for writing everything from rock lyrics to anti-abortion songs. After four years of use the nightie has become a little bit worn and threadbare, so we have given Aphrodite a brand new nightie in GD2 colours. To claim your free new nightie, just produce your master disk.

Also available is the GD2 version of Auto-Graph, which completes the upgrading of the Just Words! program range in the new colours. Our freeware range upgrades can be downloaded from our website and our commercial range will be upgraded free on charge on production of your master disk.

JUST WORDS! CONGRATULATES QL-TODAY ON ITS 10TH PUBLISHING YEAR.

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Start Here

Essential Information For 21st Century QLers Essential Software

by Roy Wood

Before we launch into a full discussion of that thorny subject, the BOOT file, we should really tackle what it is we are trying to load and why.

Now what do I mean by essential software?

Let's say, right from the beginning, I am not trying to convince anyone to go out and buy more software and I am not saying that this is the solution for everyone. What I am saying here is that this a set of solutions that I find works and that I regard essential for a rounded system. In the course of this I will also mention alternative solutions that cover the same area. Many of the programs and extensions I describe are freely downloadable or obtainable from PD sources so this is not a big advertising campaign.

One other thing to mention is my own attitude to software and computer use in general. As many of you will know, from the articles and Byts of Wood columns I have contributed before, I believe in making the system do the work. I am happy to use the Pointer Environment and the other tools available to me to make life easier. This whole section is biased in that direction. If you feel strongly that this is not the way we should be going I would be very happy to include an alternative viewpoint in this series. I have said from the start that I do not want this to be my endeavour alone so sharpen up your Quill and contribute.

I will start by assuming that you have a system with either a hard drive or twin HD drives and sufficient memory to load a suite of programs. I suggest this would need to be to be at least 2Mb. I will not go too far into loading and running the programs I mention here since that will be covered later in the series.

Baseline

So what is the baseline here? The foundation stone upon which you build your system. It is, of course, the Operating System. The original QL had an operating system on ROM. Switch it on

and there it is. The familiar three screens. There was a gradual progress through the Operating Systems from the original ROMS through JM to the final JS version. These were augmented by toolkits of various kinds the most common of which was TKII. This was originally available as an add on ROM which plugged into the ROM slot of the QL. It was later included in the firmware for the later Trump Cards, Gold Cards and SuperGold Card. Toolkit II added a number of vital improvements to the basic O/S and refinements to the QL's command set. As a minimum requirement for a basic system we therefore need TKII.

Sometime after the JS ROM, Minerva was launched. This was another improvement on the original QL system adding some features that are still not available on the current O/S front runner. Minerva was a replacement ROM which, in its final form had a battery backed clock and an I2C interface. TKII was still a useful add-on to this, however, so it still needed to be loaded.

As with all improvements there were problems. Software that took shortcuts and did not obey the rules that were set down in the original specification fell over and did not work correctly but well written software ran fine and new software could take advantage of the new facilities it gave the programmers.

The next advance was the Pointer Environment and this affected the way in which the QL's windows could be saved and restored and added support for pointing devices as well as adding in a host of other new functions. I suppose it is at this point I will be parting company with some of the QL enthusiasts who believe that the computer does not need these extensions and that it detracts from the function of the machine. Still, stay with me to the end and see if it has any relevance to the way in which you use your machine. There is no reason at all why you should not select in your BOOT file whether to load the P.E. or not and have two different systems for different uses.

The latest operating system is SMSQ/E. This took many of the older systems and added them

together into a single file which could be loaded by a single line in the BOOT file. SMSQ/E added many new features to the QL and, over the years since it first came out, it has grown impressively. Again you may regard me to be biased but I am not trying to sell you anything – be it software hardware or even concepts – I am really trying to see how people can get the best out the machine they are using.

Just to draw a line in the sand here then let us consider what the minimum hardware and software components we need to start to build up, what I consider to be, a comprehensive system.

Hardware

From the hardware aspect I would say we would need a JM or JS QL (JS preferably) a Gold Card (because that would give you at least 2mb of RAM a battery backed clock, TK II and an HD disk interface.) and a set of twin HD disk drives. We could add to that one of Tony Firshman's RomDisQ creations which would give you fast and efficient storage. Anything more sophisticated than that would be a bonus. A Super Gold Card would give you more speed, memory and the ability to attach a parallel printer and a couple more drives. A Qubide would give you access to a hard drive, although you would need a power supply for it, and casing the whole thing up in a small PC box with a superHermes would allow you to use a better keyboard. Of course the end result would not be a classic QL but it would work better.

Software

From the software side of the fence I would say that the minimum would be, apart from the operating system itself, TK II and the Pointer Environment files. Both of these are now freely distributable although it is difficult to get a software only version of TK II. I would suggest that SMSQ/E is a worthy route to take for reasons given above and in the 'SMSQ/E Features' box. I regarded it as worth buying for easy way it gives access to DOS format disks alone. One of the great aspects of SMSQ/E is that it is multi platform. The same commands will work on a QXL, Super Gold Card QL, Q40, Atari or QPC2. Some functions are hardware specific but the commands exist in all versions (or they should) so a program that tries to issue the command will not crash or give an error. From here on I will discuss what more you can add to these basic systems and what it will give you.

Extend Yourself

Before we take any giant steps in software we need to look at the other extensions we may need to add to get a good use from the system. Some software requires other extensions to be in place before we can use it. One of the more ubiquitous of these is Jochen Merz's Menu Extensions. Many programs need these to be installed and they do provide functions that many programs can call upon to provide easily recognisable common menus for a variety of tasks. These include the loading and saving of files, text entry and selection from lists. If you use any of the programs that need these extensions they will usually be provided with the package. Some programs, many of Geoff Wicks 'Just Words' programs for instance and some PD stuff, have both menu and non-menu driven versions and so do not provide the extensions on the master disks.

There are a couple of other extensions we may need to load. If you use the QTYP spelling checker you will need to load the QTYP_SPELL extension for instance and, since many programs are in compiled QLiberator or Turbo code You should think about loading these extensions too. For a long time the Turbo toolkit was incompatible with the Pointer Environment but over the last few years it has been modified and updated, largely due to the efforts of George Gwilt and David Gilham and now it will run very happily – even under SMSQ/E. Another extension that is getting to be more popular is the one which allows the setting of environment variables. If you run Qascade or MicroEMACS, for instance, you will have to load ENV_BIN and to set the variables in the BOOT file. I will not go too deeply into this now because it will be tackled in the BOOT file section which is coming up in the next issue. All of the above items are needed to be able to run some programs. If you are running a program which needs a certain extension you will find it mentioned in the manual (and you all read these from cover to cover, don't you?). You may also find a BOOT file on the master disk and this will load all of the extensions you need to run that program on a 'clean' machine. By studying that BOOT file you should be able to see if you need to load anything else to incorporate it into your system.

Extend Your Functionality

So, assuming we have our basic requirements in place, what do we want to do with the system?

File handling is an essential function isn't it? We have a file, let us call it FLP1_DATA.TXT and we want to make a copy of that file on FLP2_. What could be simpler, say our purists, than going to the command line and typing :

```
COPY FLP1_DATA.TXT TO FLP2_DATA.TXT
```

OK that is fine if that is all you are doing but what if the disk has 20 files on it and you want to copy 15 of them? A file handler would be a good option. There are a few of these available for the QL. Some are freeware and in the Public Domain libraries and some are commercial and cost money. My personal recommendation would be difficult because I use three different file handlers depending on circumstances. Hold onto your seats here because I am going to talk about QPAC 2.

QPAC 2 scares a few people. You will find many QL users who have it in their disk box and have never used it and don't understand how to use it. Again I am not going to go into a big discussion of QPAC 2 here. You will find that in one of the back issues of this magazine (Volume 5, issue 6) but I will repeat here that QPAC 2 is a great collection of tools which make the QL easier to use once you have mastered a few simple concepts. It was, as I have said before, hamstrung at the start by a BOOT file that did not load the program but ran a tutorial which just left the user puzzled and a manual which got too complex too soon. That said QPAC 2 is loaded by just a simple

```
LRESPR dev_QPAC2
```

and the file menu can be called up by typing

```
EXEP 'FILES'
```

Have a look back at the issue I mentioned above and see how useful it can be and how many other neat features are in this bundle. It is still the file manager I use the most, probably because of the way it can be called with a set directory pre-loaded. It does lack a few features though. One of these is the ability to clone a disk with sub-directories or even just copying a subdirectory to a new location. For those tasks I use CUE-SHELL which also has a couple of good tricks up its sleeve. The third, in my trilogy of File handlers, is Disk Mate 5 which I bought from its author at a show in Holland back in 1992. This again has a few useful features not seen in the other two. One of these is the ability to copy a disk and then to repeat the copy over again with one click

or keypress. Useful when making many identical disks.

One other basic requirement is running a program and then loading data into it. We do this all the time don't we? In the old, non pointer, world we would go to the command line and type:

```
EX DEV_PROGRAM
```

then find the files menu and locate the data and load it into the program. How much nicer would this be if we could just find the data we want to load and just click on that knowing that the system would be able to find the right program and start it automatically for us and then load the data into it. Well FileInfo 2 will do all of that and more – and it is free! It does take a little setting up but that is covered in Volume 4 Issue 5 of this magazine. All three file managers I have mentioned here have hooks in them to use this software. Of all the essential pieces of software I mentioned in this article Fileinfo2 goes right up to the top of the list with QPAC 2.

Zip It!

Many of the PD disks and Internet downloads these days come as ZIP files with the programs and data compressed into a smaller file. This is useful for a fast download and to get more onto a small disk and it is also useful when dragging executable files off the internet because, if you unzip a QL-program into DOS, you will destroy the file header and the program will not run when you transfer it to the QL. Now you can run unzip from the command line by typing :

```
EX dev_UNZIP [command] (filename) (destination)
```

There are a number of options and commands you can use to get exactly the output and destination you want and once again this can be found in the backpages of this magazine (Volume 4 Issue 1).

As you suspect, however, I prefer an easier route. For a simple unzip to RAM1_ I have set up File-Info2 to do just that when I execute a file with a '_ZIP' extension because Fileinfo2 will allow me have a menu of options when I click on a file I have also set it up to call ACP (The Archivers Control Panel) and load the zip file into it. ACP has a whole host of advanced controls in it so I can adjust what happens with my zip file contents from there. Another essential program then, and they are both written by the same person, Thierry Godefroy.

Control the Screen and Access the Programs

Of course, what you really need to do with a computer, is to run programs and the ease with which you can do this is the test of how good your setup is. You can remember what each program you use is called and where it is on the master drive and just go to the command line and type:

```
EX DEV_PROGRAM
```

The Pointer Environment brought in the HOTKEY System which means, that by means of a line in the BOOT file, you can call a program with just a simple two key combination. Not a bad system but you do have to remember which key is which and, considering many QL programs start with the letter 'Q' (I wonder Qhy) it does not lend itself to intuitive set ups.

You also can use a file manager such as QPAC 2, CUESHELL or Disk Mate 5 to locate the program and just execute it from there or you can have some kind of shortcut on the screen which will launch it for you.

QPAC 2 has a button frame which can do this for you. When I first got into using QPAC 2 I had a mass of buttons on the screen and I used these to run all of the programs I usually called in a session. This was effective, if a little greedy for screen real estate. One advantage of the button frame which I still use now is that, when a program is 'put to sleep', it sits in the button frame until you need it again.

Qascade came along next and that freed up the screen so I could have a whole collection of menus calling both programs and data into use. This also hooks into FileInfo 2 and is an extremely flexible way to have a lot of data and executables at your fingertips. This is a very flexible tool and is just one button to start with, growing into as many submenus as you think you will need. I will cover Qascade in a little more detail later in the series but there are a couple of articles on it in the back issues already.

Now we have two new kids on the block. Dilwyn Jones' Launchpad and Jim Hunkins' QDT. Both of these work from icon / folder based systems and both can be used to set up programs for easy access.

Programs – The Tools For the Job

Finally we come to the programs themselves. It is hard to have an 'essential selection' here be-

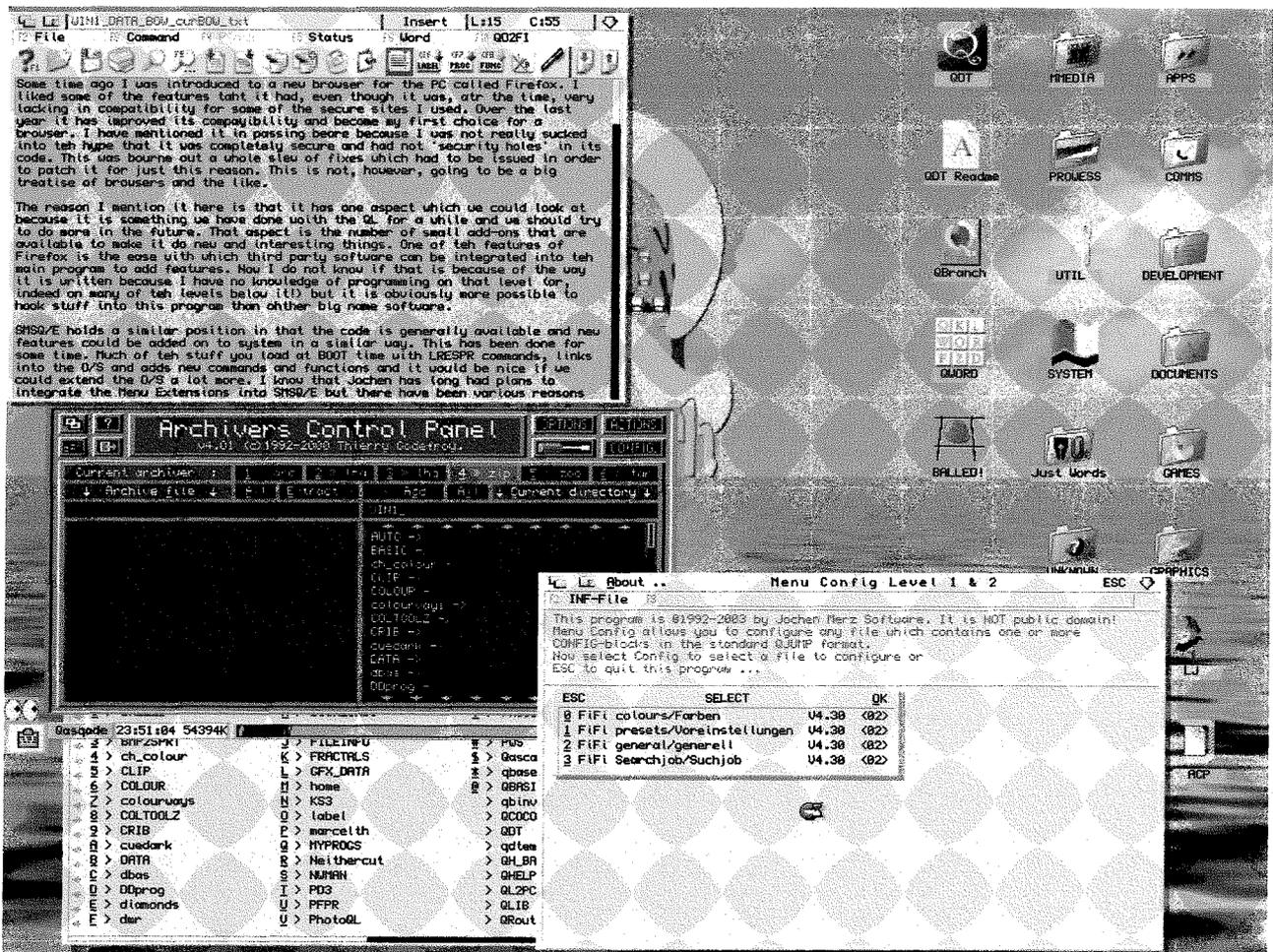
cause it will depend on what you do with the system and how you feel about the different methods of interacting with it. I suppose, out of all the choices you can have, one vital piece of software is Xchange which will give you access to all of the old files produced on Quill, Archive, Abacus and Easel (The original QL software package) but put them in one program which will multi-task correctly. I would also suggest that FiFi is very useful (the program not the french au pair), especially for people with hard drives and a few years of data on them. Sometimes you just cannot recall what that file was called or where you stored it and FiFi will sniff it out for you.

Qascade comes with a clock button which can also be used to start two programs. It displays the time in the button frame and either a right or left click can be used to start a program. I use one of these to start the QPAC 1 Calendar which is good for looking up dates and there is another useful utility called DIARY_REXT which will link into QD so a right click on a date in the calendar will open QD and allow you to make a Diary entry. The file will automatically have the date you clicked on as its file name and will be stored in a subdirectory you have preset in the configuration.

I suppose that, out of all the commercial programs in my box, I would regard QD to be the most universally useful since it can be linked into so many things. QD2FI2 will link the F10 function in QD to FileInfo 2 so basic programs can be executed as you write them and other programs can be called from it. It is also, in my opinion, the best text editor and viewer for the QL. It may lack some of the functions of The Editor but it more than makes up for that with the functions it has and the uses it can be put to.

Word processors are a tricky thing on the QL. Xchange has Quill in it but that is severely limited. Text 87 is probably the most fully featured and the one which gives a screen output that is as close to WYSIWYG (What You See Is What You Get) as it comes but it is not easy to either set it up or learn some of its more esoteric functions. Perfection has just been updated by the London Quanta group and I will try that out soon. Apart from that we have no other real options.

There are a lot of nice little extensions and programs out there and sometimes these do not get found or used enough. HBUtills is one such free extension which will give you a Clock Button, A Memview Button and some other stuff. Geoff Wicks Spell Checker is another extension which sees a lot of use as does MenuConfig – the easy way to set up programs with config blocks.



And Onwards....

I suppose that there are a few programs I have missed out in this summary and I suppose that some of you will have their own little favourites for doing the odd jobs on their own systems. These were just my choices so feel free to write in and tell us yours.

Next Issue I will start the task of putting all this together to make a coherent BOOT file.

From the Back Issues:

- | | |
|-------------|--------------------|
| QPAC 2 | - Volume 5 Issue 6 |
| FileInfo2 | - Volume 4 Issue 5 |
| Zip & Unzip | - Volume 4 Issue 1 |
| ACP | - Volume 4 Issue 6 |
| Qascade | - Volume 2 Issue 4 |
| | - Volume 4 Issue 2 |

QL is 21

by Geoff Wicks

The first QL show I ever attended in the UK was in Portsmouth. At the time I was living in the Netherlands and my trip to the UK had been one public transport disaster after another. My train from Amsterdam to Brussels was delayed for an hour and then my Eurostar connection got stuck in the Channel Tunnel for over 30 minutes. To add to my sorrows there were engineering works delaying London - Portsmouth trains.

After the show late at night I went to check train times, and wandered round and round the station unsuccessfully trying to find a poster giving details of the engineering works. My behaviour was

closely observed by a youth, who obviously thought I was hanging round the station for another purpose. He gave me a nice smile as I left the concourse to go to the ticket hall and an even bigger smile when I returned.

Something similar happened the first time I attended a Manchester show. I had scarcely stepped off the train before a young lady offered to take me to places more interesting than a local scout hut.

My first memories of a Portsmouth show were revived at QL is 21 when Sarah Gilpin thrust a light blue T-shirt in my hand and said Quanta

Committee members were to wear one throughout the show. I do not usually wear T-shirts, especially T-shirts with slogans. Printed on the back of this one were the words:

I AM A QL'ER



A loyal sentiment, but unfortunately, if the T-shirt was slightly crumpled, from a distance it seemed to bear a different

message. There were also engineering works this time, but I thought it wiser not to go to the station wearing my Quanta T-shirt.

To be honest I did think of rebelling by remaining in civvies, but I have discovered from experience that when Sarah Gilpin tells you to do something, it is better to be obedient.

There were a few surprises for the punters as well. The night before the show the AA had efficiently sign-posted directions to the hotel, and when the punters arrived



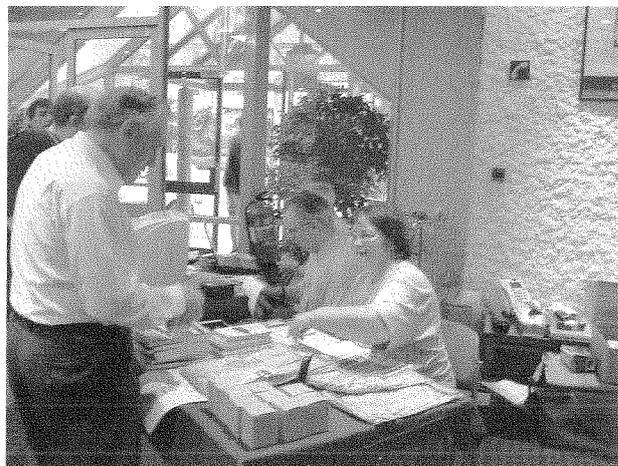
Nuff Said

they could not creep unseen into the show. Bang by the hotel entrance was a registration table where they received their freebie souvenirs, a QL is 21 computer sticker and a mobile phone rest. Some hotel guests asked at the show reception

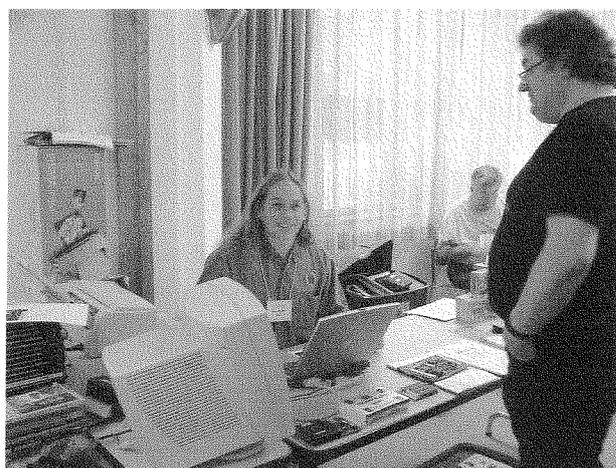


if they could have a look at the show, and QL old-stagers soon found themselves answering eager questions from a group of youths about the QL.

At the beginning of August the Quanta Committee meeting were very worried about QL is 21. I had to report I was having difficulties in organi-

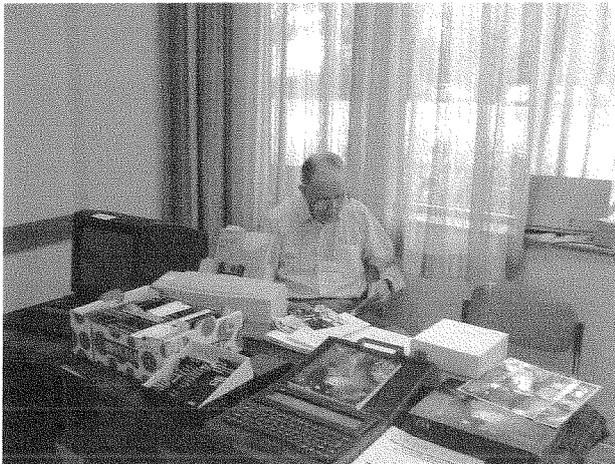


sing an activity programme and Roy Brereton that hotel bookings were low. Less than 2 weeks before the show hotel bookings still disappointed, but interest in the show picked up in the last 10 days and some QL-ers wanting to book a last minute hotel room discovered they were too late and had to find accommodation elsewhere. In the end 43 people attended the show and 32 stayed for the celebratory dinner.



Quanta had the use of three rooms although two of these were formed from a single room containing a moveable partition. We knew these two rooms were on the small side and planned a full activity programme to ease the pressure on the main hall. The hotel's bar and cafe area was situated between the main hall and the lecture room and this helped to keep numbers in the main hall acceptable.

For all that it disappointed. The main hall had to accommodate not only the traders, but also an exhibition of QL history, the Quanta library and anyone else with their machines. The traders had insufficient room to display their goods, and there was scarcely room for purchasers to sit comfortably by their tables.



By contrast the lecture hall could not have been better. At the front was a desk for the presenter and in the body of the hall 30 comfortable seats. The hotel also provided a flip chart and water cooler. Roy Brereton brought a computer projector and I had computer speakers.

Marcel finds someone to look up to him



Five traders attended, plus a "quasi-trader", although trading only took place on the Saturday. The traders were John Merz, Roy Wood, Tony Firshman, Bill Richardson and myself, although given the pressure on the main hall I did not set up a table. Dilwyn Jones was the "quasi-trader" with copies of Launchpad and his CD's for sale. Bill Richardson was a welcome face as he has not attended a show for some time. He indicated this was likely to be his last show as he is now 87 years old. During his time as a trader he has sold over 4,000 QL's and 10,000 Spectrums. Opposite Bill's table was the QL history exhibition that Dilwyn Jones had put together. Two display panels were filled with QL information and bet-

ween them were two tables of hardware, including such things as an OPD, various disk and other interfaces, a spem digitiser and an omni-reader. Several people, including John Gilpin, John Gregory and David Batty had helped to hunt down the hardware. On a nearby table the original QL demonstration program ran continuously on a Cub monitor.



Dilwyn had mounted his material on card sheets and these are being preserved for future QL shows including the Quanta AGM in Manchester next April.



We waited until there were sufficient people present before starting the activity programme with George Gwilt as first presenter. George is well known as the author of TurboPTR, but on this occasion I asked him to concentrate on the changes he had made to the Turbo compiler. I had expected his session to be mainly of interest to programmers, but to my surprise the lecture room was over half full. He gave details of 7 corrections he had made to Turbo, including making it pointer environment compatible, and some 5 enhancements. It is now possible to add configuration blocks to Turbo compiled programs, to include extensions similar to those in QLiberator and most recently to pass arrays and variables by reference. How long will it be before Turbo

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Notes:

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The Aurora version is available on either HD or ED disk. For the latter add £1.00 to the price. ED version is uncompressed and can be run directly from the floppy. All other Floppy versions are compressed. QPC/QXL version comes on CD. Non CD versions DO NOW support digital sound on QPC2

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Talent Games for Windows ea. £ 10.00p
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| Q-Help v1.06 | £ 10.00p |
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| | |
|---|-------------|
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| | |
|---|----------|
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| Adventure | |
| The Prawn v2.01 | £ 8.00p |
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| D-Day MkII v3.04 | £ 10.00p |
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| All 6 games above (Open Golf, QuizMaster II, Stone Raider II, Hoverzone, Deathstrike and Flightdeck) | £ 28.00p |

Notes on Software requirements

The following programs have a minimum SGC card requirement: P-Word, Qword, Big Britain MAP for Q-Route

replaces QLiberator as the preferred compiler for QL use?

Following his Turbo presentation, George demonstrated his screen snatcher program. This allows you to save all or part of the screen, and change its size after saving. The saved screen portion can then be converted into a sprite. To illustrate the program's potential George used a photo of John Sadler in discussion with Tony Firshman. He cleanly decapitated the latter and made a sprite of his head, sometimes moving it around the screen as a transparent sprite and at other times displaying it in full colour glory.



It was an impressive display, although George should perhaps be more careful in his future demonstrations. If word gets out that he has been chopping people's heads off and proudly displaying them on a large screen, he could find himself banged up in Belmarsh Prison without trial. (Or perhaps even worse deported without mercy to Scotland!)

After George, Leon Heller, the first Chairman of Quanta, gave a talk on the early QL and Quanta days. Leon was one of a number of guests invited by Quanta to attend the show, several of whom were prominent QL personalities in the 80's and 90's, but most did not attend. Two ex-traders present were Stuart Honeyball of Miracle Systems and David Batty of Sector Software. Both during and after Leon's presentation there was plenty of time to reminisce.

After our trip to the past, I wanted to bring things bang up to date by running the games session. However at this point John Mason announced it was lunchtime, the class truanted en masse and could not be enticed back for an hour. Obviously eating was more interesting than listening to me. I intended to start the games session by demonstrating QWord in an early stage of its development to show how the program had changed beyond recognition once Phoebus Dokus had done his work. Unfortunately every time I tried

this my laptop reported a display fault. Instead I ran QWord as it is normally installed on my machine. This is the third time I have given a show presentation of the program and realise it is slowly becoming "old hat".

The other program I demonstrated was Per Witte's D-Miner, a sort of mine sweeping game, which Per wrote as an exercise to learn the new facilities in EasyPtr 4. It includes resizable screens, digital sound, high resolution sprites, GD2 colours and 3D windows, and would have been impossible to write a year ago. If you have not seen yet seen D-Miner it is worthwhile to go to Per's Website:

<http://knoware.mysite.freemove.com>

I am not an enthusiastic games player and (tut! tut!) had not read the manual, so I could demonstrate D-Miner, but had no idea how to play it. At this point Per kindly took over from me, and demonstrated how to play the game. After all why bother with the monkey when the organ grinder himself is there?

D-Miner led naturally to the next item which was a talk by Dilwyn Jones, assisted by Marcel Kilgus, on EasyPtr 4. Dilwyn estimated he would talk for about 20 minutes with time for questions. I had planned the session as a specialised topic of interest to a handful of people. To our surprise the lecture room was packed out and the session lasted for almost an hour.

Dilwyn told me he had the impression people were eager to learn about the pointer environment and the new colours, but did not know where to begin. They had many questions but sometimes found it difficult to formulate these. His concluded that we still have a long way to go in making the pointer environment accessible to more QL-ers.

Quanta had some prizes to award to participants in last year's survey and I had gathered the Quanta Committee together to announce the winners before people left the lecture room. We waited outside experiencing a strange mixture of disbelief, amazement and ecstasy. It was probably the moment we realised the show was a success. Who would have expected 30 people to actively participate in a lengthy discussion on the pointer environment?

But every high point has its downside. We had started late, had missed an hour at lunchtime and now had an event that everyone wanted but which had taken almost 3 times the allotted time. The remainder of the activity programme had to be scrapped apart from the last item.

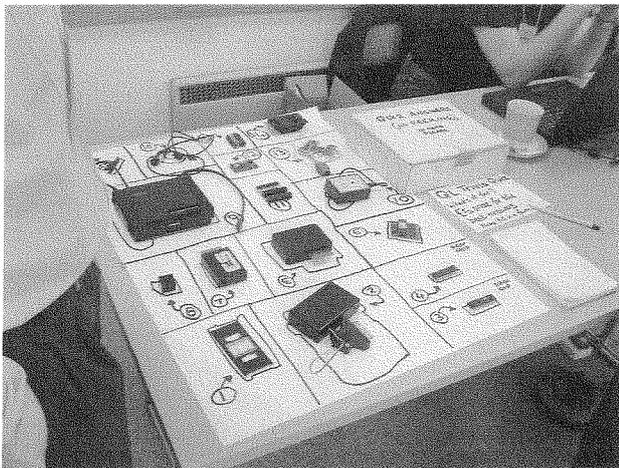
The biggest casualties of this decision were the two GUI presentations. Both Roy Wood who had

agreed to demonstrate QDT and Dilwyn Jones, author of Launchpad had asked me to delay their presentations as long as possible. The updates of both programs were so recent that neither had had the time to prepare a formal demonstration. Fortunately there were still able to show potential purchasers the programs at their tables. (Another program updated for QL is 21 was QLAY, but this arrived too late for the show.)



Simon Goodwin, clad in multi-coloured jacket and trousers that would require a GD2 system to display, closed the activity program for the day. Simon, who had prepared his presentation at short notice, provided a counter-balance to the SMSQ/E stuff earlier in the day. I had placed him at the end of the day as I knew he would overrun his time which, of course, he did. The miscreants who had bunked off at lunchtime were happy to stay listening even after schooltime was officially over.

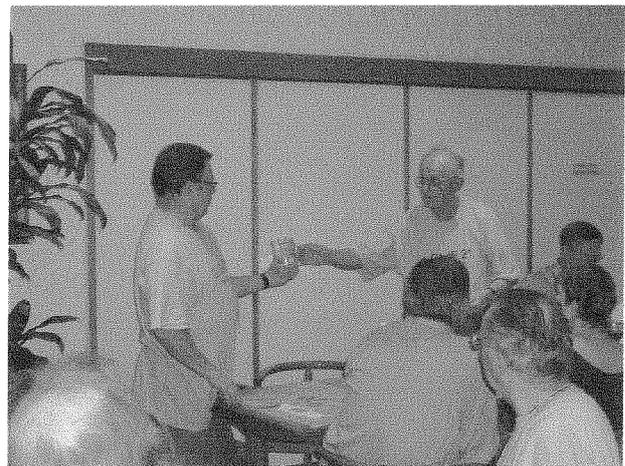
Simon gave a thorough review of his (QL) life-time's work and the highspot of his presentation came when he was describing his program to download images from a Kodak digital camera. He took a photograph of a person fast asleep in the audience, downloaded it to the QL and projected it on the large screen.



Earlier in the day Simon had organised an impromptu competition in which contestants had to identify 17 QL related objects and describe their purpose. Of course, the QL Today team won this competition with flying colours. Well not quite! Your intrepid editor recognised only one of the objects and quickly fled from the room. Your publisher and ex-editor did much better coming 6th and 5th out of 9 entrants respectively. John Hall was the winner with the maximum possible score of 20/17.

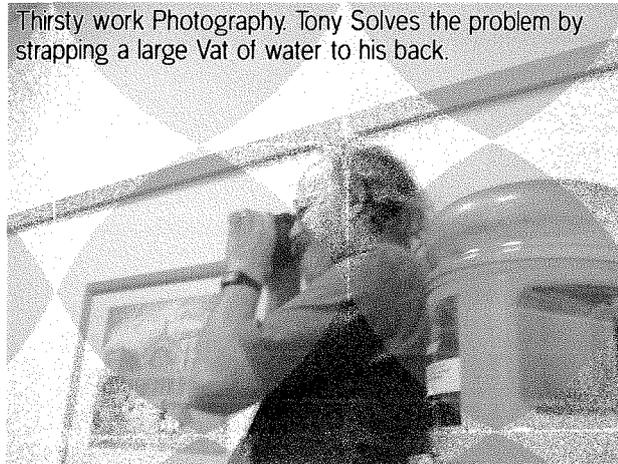


Officially dinner was 7.30 for an 8.00 start, but most people were in the bar well over an hour beforehand. The term "Carvery Buffet" meant there was no waitress service, but an initiative test to discover where the various courses were being served. Our table sent out Roy Breton regularly as a scout to locate our food. There was much praise for the quality of the meal.



As soon as dinner was over Quanta's chairman, John Mason, smashed his wine glass with great enthusiasm and I feared for the moment that he would move on to trashing his hotel room. The hotel staff interpreted his behaviour more kindly and rushed to his assistance as he had cut his hand. They gave him a plaster in a fetching blue colour to match his Quanta T-shirt.

John was in fact calling the group to attention for important Quanta business. Roy Brereton has served on the Quanta committee in various roles for 17 years. He had intended to stand down at the last AGM, but had been persuaded back onto the committee as general organiser of QL is 21. On behalf of Quanta John Mason presented him with two inscribed glasses and awarded him honorary membership of Quanta.



After dinner few people left the dining room, but moved from table to table. Soon there were some unusual groups of people deep in conversation. John Hall looked around at these groups and said to me, "Just what will come out of this?" Eventually the hotel staff asked us to leave the dining room and we retired to the bar. Some looked as though they would continue talking and drinking through the night, but your reporter was exhausted by the day's proceedings. In the true traditions of gutter tabloid journalism he made his excuses and left before having to witness anything untoward.



After the Saturday celebrations, Sunday was a bit of a downer. Most people were up late and many left for home immediately after breakfast. We continued with the activity programme, but attendances were low.

George Gwilt wanted an early start to his sudoku presentation as he had a train to catch. He said it would take just 10 minutes and would be happy to repeat it for any late-comers. George's sudoku program does not actually solve the puzzles, but does the easy bits for you leaving you with the challenge of the harder bits of the logic. This session lasted much longer than 10 minutes as other people, including John Sadler, have also been working on Sudoku puzzles.

To my shame I have to admit to an unseemly spat between John Sadler and myself fighting like a pair of scavenging vultures over a tasty morsel. I was hoping to get George's program for a possible QL Today cover disk and John for the SQLUG web site. George had to firmly remind both of us that it was his program.

SQLUG is unique among Quanta sub groups in having a web site and this hosts most of George Gwilt's software. I hope that more of George's programs are placed on it so they can become widely available to QL-users. And of course his programs are written in TurboPtr and then compiled by Turbo.

No hard feelings, John. Put George's sudoku and other programs on your web page and keep QL-Today informed so that we can give you a regular plug:

www.jms1.supanet.com

(By the way do not confuse that jms, as sometimes happens, with Jochen Merz Software)

A small group of Q60 users then gathered together to discuss their experiences. I understand there were no major issues raised at this meeting. One user has been experiencing difficulties in accessing some CD-ROMS using the Qubide interface. George Gwilt also raised an interesting point. He has used a Q60 for some time, but has more recently purchased a laptop and QPC2. In the past he has used some of the instruction set of the 68020 processor which are not available on QPC2 as this emulates the 68000 processor.

The final activity was my own presentation on colours. At the start of the show I had promised I could teach people to use the new colours using a SuperBasic program of just 11 lines. I had an audience of only 8 people, but I think they were amazed to see how easy it is to program in GD2 colours. For those who had to leave early or who could not be at QL is 21 I hope to write up this presentation as a tutorial in this issue of QL-Today.

The show was over but the Quanta committee stayed behind to clear up and then had lunch together. We were happy to have run a suc-

successful show and talked about the future. We are expecting two members of the present committee to step down at the AGM and thought about possible replacements. The QL may have the image of being a computer for the wrinklies, but this is not entirely true. There is much younger blood in the community than we realise and perhaps it is time for them to start thinking about the Quanta they would like in 2 or 3 years time.

Under the new constitution the next chairman could be in office for three years. His successor needs to gain Quanta committee experience now.

So it's goodbye from me, and I'll see you all in Manchester next April. Or perhaps not. Who knows? If, when I step off the train, I meet another young lady I might prefer to go to a place more interesting than the local scout hut.

Take a Hint!

by Per Witte

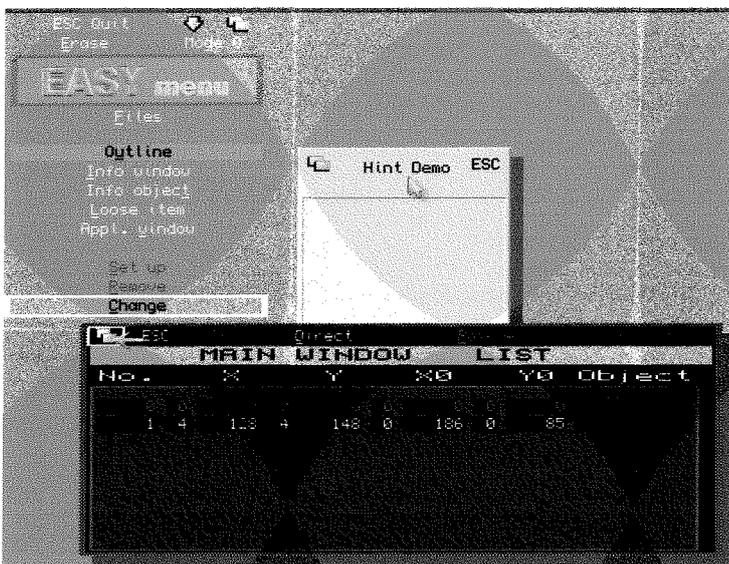
Now that the "new" Easy Pointer keywords MCALLT and RPTR have been properly implemented and debugged, thanks to Marcel Kilgus, it is possible also for Easy Pointer programmers to create pop-up help or Hint windows.

You need the latest version of Easy Menu, ie at least V4.09, and the ptrmen_cde toolkit (of one sort or another) of at least V4.05.

The program below contains all you need to implement basic hinting in your own programs. A slightly more developed and generalised version of this program will be available on my web site, knoware, shortly. It is basically the same as the routine below but allows for long hint texts by semi-automatically splitting long lines.

The first part of the program is a harness to enable you to test the routines. However, to get this program to work you first need to create two menu definitions in Easy Menu.

The first one is a simple dialog window with two loose items (buttons) and a Menu Application Window. You may already have a menu in your library that you could use for this. If not, it is easy enough to make your own in a couple of minutes. It should look something like the one shown below.



It doesn't have to be pretty, just make sure all the elements are big enough to display the sub-elements, otherwise you will have problems later. Here I've created a 128x148 window, which is more than ample.

I've set the internal Move sprite as the object for the first 18x18 button and set its selection code to 5 (not the character '5' but the code). The latter means that Easy Pointer will treat a click automatically as a Window Move request.

Sadly there is no standard Escape sprite, so I've entered the text ESC in the second, 24x18, button. Its selection code is 27. Just for decoration I've added an Information Window containing an Information Object consisting of the text displayed. Finally, a large, menuless Application Window takes up the remaining space. I've called this Menu Definition 'hintdemo' and saved it as 'hintdemo_men'.

The second Menu Definition is more useful as this can be re-used wherever you need hinting. Of course, you don't have to use a menu for this; you could just use a standard console instead. But using a menu is just simpler as it takes care of the pointer sprite, shadow, etc.

First consider the pointer sprite for this menu. We don't really want to see a pointer at all, although there has to be one present. So the thing to do is to create a null sprite, ie the smallest possible, invisible, sprite.

Use Easy Sprite to create a single pixel, transparent sprite. (It may be necessary to make it 2x1 for use on non-SMSQ/E systems.) The new, second generation pointer driver can cope with a 0x0 sprite, but this cannot be created with Easy Pointer directly, so we'll leave that as an exercise for the more adventurous reader. Now fire up Easy Menu and load the saved null sprite into the program.

Set that sprite to be the pointer sprite for the present menu definition. (How? With Outline set as the item to work with, choose Object; select the null sprite, click Ok.)

Next choose the outline Attributes and set the window colour to Hint bg, and the border to Hint Border. No need to fiddle with any other attributes. Finally DO the Change menu to bring up the outline window metrics and enter the following data into the table:

| No. | X | Y | X0 | Y0 | Object | | | | |
|-----|---|----|----|----|--------|-----|---|----|--------|
| 1 | 4 | 24 | 4 | 12 | 0 | 250 | 0 | 92 | -> spr |

The significant columns here are columns 2 to 5. The rest can be left alone. The '4' in columns 2 and 4 signify that the subsequent dimension can be varied freely, ie the window can be any size larger than 23 x 11 pixels. Finally call your menu 'hint' and save it.

For the sake of the demonstration, put the hintdemo_men and hint_men file in a folder with the program file and set the directory in line 1 of the program below accordingly. In the real world you'd add the menus to an app-file or append them to your program file in some other way. Type in the numbered lines below and you're ready to rock!

The Pop-up program

```
1 dir$ = 'ram1_hint_': rem Home directory
2 :
3 sp_hintbg%      = 553: rem Hint background
4 sp_hintfg%      = 554: rem Hint foreground
5 :
```

It's useful to have the above palette colour codes predefined as it saves you having to remember the numbers. On my website you can find the whole list; just copy the definitions and paste them into your program as required.

The next few lines are the harness, although you will need to add some of the definitions further down to the initialisation part of your own code to make the pop-up routines work.

```
6 dim dat$(6, 12)
7 for i% = 0 to dimn(dat$): dat$(i%) = 'Data '
  & i%
8 :
9 ch% = fopen(#0; 'con_')
10 mdraw#ch%; dir$ & 'hintdemo_men'
11 mawdraw#ch%; 1, dat$
12 :
```

The following must be initialised before using these routines, ie put them in the initialisation part of your program.

```
13 timep% = 100: rem Timeout before pop-up
14 timed% = 300: rem Pop-up display time
15 ev% = 0:      rem Events
16 it% = 1000: lit% = it%: rem Current and
  last items
17 dim pv%(15): rem Init pointer record
18 :
19 wsa = mwdef(#ch%): cia = peek_l(wsa)+ 48:
  rem Ptr to current item
20 :
```

Example of use:

```
21 rep main
22 item = mcallt(#ch%, ev%, timep%)
```

'item' contains the result of any clicked object - unless nothing was clicked and the routine simply timed out after timep% frames. In that case item contains the code -1280 (see below)

```
23 pval#ch%; pv%: rem Read the pointer record
  into array
24 if item = -1280 then
25   rem timed out
26   lit% = it%
27   if pv%(2) = 0 then
28     it% = 10
```

The Application Window number is returned in pv%(2) (counting starts at 0, with -1 being none). Here we could calculate the element number and show a different hint for each menu item. I've just given a general ID for the whole Application Window.

```
29 else
30   it% = peek_w(cia) * pv%(2)
```

it% is the current (highlighted) item - peeked from the Working Definition.

```
31 endif
32 if it% = lit%: next main
33 :
```

Line 32 above implies: Don't display the same item twice in succession.

```
34 sel on it%
35   = 0: Pop 'Move Window'
36   = -1: Pop 'Quit Program'
37   = 10: Pop 'Appwin'
38   = remainder: Pop 'Hint demo'
39 endsel
40 next main
```

The above is what happens when MCALLT times out. Depending on the current item or other return code, a pop-up window is generated with the text provided.

```
41 else
42   if item < 0 then
43     select on item
```

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BALLED! - new game for the Pointer Environment

Balled is the new Game from Wolfgang Lernerz for QDOS and SMSQ/E. It runs in high-colour mode (looks great) and can also be played in standard QL Mode 4.

Also, Balled uses the digital sound system if you run it on a recent version of SMSQ/E and QPC, Q40 and Q60! The aim of the game is to build lines by moving coloured balls around, following some rules, of course. After every move, more balls appear, so you have to be careful not to fill up the board - then the game is over! Different levels of difficulty and wildcard balls are also featured. Find out how to get bonus and higher scores to fill up the high-score table!

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```

44 = -1: rem Wmove (but program never gets
    here)
45 = -2: quit
46 endsel
47 endif
48 endif
49 endrep main
50 :

```

The above are the normal action routines. The program only arrives there if an object was actually hit.

The next bit is the main pop-up routine. It was written to act as a general utility that could be used without too much fuss, so the only parameter you need to supply to the routine is the text you want to display. It takes care of the position and size of the window by itself.

```

51 defproc Pop(txt$)
52 loc cp%, l%, x%, y%, xs%
53 rem V0.01 March 1st 2005
54 :
55 x% = pv%(14): y% = pv%(15)

```

Get current pointer x and y coordinates

```

56 l% = len(txt$) * 6 + 4: rem csize 0, 0
57 xs% = x% - (l% div 2): if xs% < 1: xs% = 1

```

Calculate window x size in pixels

```

58 :
59 cp% = fopen('con_')
60 mdraw#cp%; dir$ & 'hint_men', xs%, y% + 2,
    l%, 12

```

Display window. Stretch x dimension to fit text

```

61 wm_ink#cp%; sp_hintfg%: wm_paper#cp%;
    sp_hintbg%
62 cursor#cp%; 2, 1: print#cp%; txt$;

```

Display hint text, using designated palette colours

```

63 rdpt#cp%, 11, x%, y% + 2, timed%

```

Wait for pointer move, a click or timeout, and then..

```

64 mclear#cp%: close#cp%

```

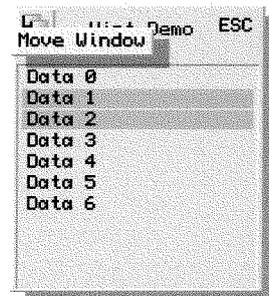
vanish!

```

65 enddef Pop
66 :

```

To test, let the pointer rest on one of the objects, ie one of the buttons, the Application Window, or the main window itself. After `timep%` frames the hint should display for `timed%` frames or until the pointer is moved. Note that you won't get a hint twice in a row; you have to visit another object first before you can coax a second hint from the first object.



Enjoy! (And please write lots of lovely pointer programs for us all to enjoy).

Knoware:

<http://knoware.mysite.freemove.com/index.html>

SUDOKU

by Ian L. Pine

Here's a program that solves Sudoku puzzles. For those unfamiliar, these are numerical puzzles from Japan. The popular version is based on a 9x9 grid, which is what the program as presented works on, but you also encounter 12x12 ones.

The puzzle has been solved when each of the 81 cells contains a digit 1..9 such that the following conditions are observed:

The digits 1..9 must occur once each in every column. The digits 1..9 must occur once each in every row. Furthermore, if the grid is subdivided into nine 3x3 squares, the digits 1..9 must occur once each in every square.

The puzzles are normally presented with the grid partially completed to get you started and you have to fill-in the blank cells.

This program works by organizing the grid as a 9x9 array of bitmaps with each of 9 bits representing one of the digits. A reset (0) bit means the digit represented by that position cannot occur in that cell; a set (1) bit means it has not yet been ruled out. We start with all cells initialised to 511 (all bits set) meaning that all digits are possible. Next we load the starting 'clues' which will turn off all but one of the bits in the given cells. These cells are now 'confirmed' cells. The single bit which is set in a confirmed cell may not also be set in any other cell in the same row, column or 3x3 square, so the program goes through the grid resetting any of these 'illegal' bits. This process could result in some more cells becoming confirmed; the process is reiterated until no changes occur to any of the bits in any of the cells.

At this point, if all the cells are confirmed, then the puzzle is solved and the program ends; otherwise, we need to resort to trial & error to determine the values of the remaining cells. The program uses a recursive process to step through every permutation (or should that be 'combination?') of possible values (as given by the bits which are still set in the cell bitmap) for each of the remaining cells which are not confirmed. This is a potentially very time-consuming process, so to speed it up a little the PROCedure MakeList notes the coordinates of every unconfirmed cell using the arrays cx & cy so the FuNction Guess does not have to repeatedly search for them. Talking of speed, users of Qx0 hardware might like to run the program under the latest version of SMSQ/E and under QDOS Classic to observe the speed difference.

Points of interest: The '===' on line 810 is needed in SMSQ/E but not in QDOS Classic; in SMSQ/E the expression LN(8)/LN(2) does not evaluate exactly to the integer 3. This formula is used to convert the series 1,2,4,8... to the series 0,1,2,3... so the digit in each cell can be displayed. 8 is the only number in the nine-bit range 1..256 to be affected. The program is not very pretty, graphi-

cally (I'm not one for tarding up programs once the algorithm works - I get impatient to move on!), but it does show you what it is doing as it runs and this slows it down; remove (or REMark) lines 1850, 1860, 1910 & 1920 in FuNction Guess to gain a bit of extra performance. The program has been tested on a Q40 under SMSQ/E 3.03 & QDOS Classic 3.25£r, and QLAY (128k RAM setting) with JM ROM on Windows 98SE.

I don't know whether completed Sudoku puzzle grids are subject to copyright but I'm being cautious in assuming that the published puzzle 'clues' are; therefore, the sample puzzle I've given is my own invention - it is not very good in that it does not have a single solution, but it does force the program to demonstrate all its phases.

Input data to the program is simply a text file containing nine lines of nine digits, using 0 to mark the cells which the program has to find the values of.

The algorithm to solve the puzzle is relatively simple compared with that to generate good quality puzzle starter clues. A good puzzle has enough starter clues to ensure a single solution, but also a predetermined 'difficulty' level.

Anyone care to take up the challenge?

The Listing

```

100 REMark Sudoku puzzle solver v1.0
110 REMark (c) 2005 I. L. Pine
120 CLS
130 CLS #2
140 LET ln2=LN(2)
150 DIM grid%(8,8),cx(80),cy(80)
160 FOR i=0 TO 8
170   FOR j=0 TO 8
180     LET grid%(i,j)=511
190   END FOR j
200 END FOR i
210 INPUT #0,"Enter filename of Sudoku
    puzzle:"\f$
220 REMark Load the data and check syntax
230 OPEN_IN #3,f$
240 LET e=0
250 FOR i=0 TO 8
260   IF EOF(#3) THEN
270     LET e=1
280     EXIT i
290   END IF
300   INPUT #3,r$
310   IF LEN(r$)=9 THEN
320     FOR j=1 TO 9
330       IF r$(j)>="0" AND r$(j)<="9" THEN
340         LET t=r$(j)
350         IF t>0 THEN LET grid%(i,j-1)=
            2^(t-1)
360       ELSE
370         LET e=1
380       EXIT i
390     END IF
400   END FOR j
410 ELSE
420   LET e=1
430   EXIT i
440 END IF
450 END FOR i
460 CLOSE #3
470 REMark Validate the data; check start
    position not 'illegal'.
480 IF e=0 THEN
490   FOR i=0 TO 8
500     FOR j=0 TO 8
510       IF NOT(OKpos(i,j)) THEN
520         LET e=1
530         EXIT i
540       END IF
550     END FOR j
560   END FOR i
570 END IF
580 IF e=1 THEN
590   PRINT #0,"Unacceptable data in
    puzzle file"\f$
600   STOP
610 END IF
620 DrawGrid
630 LET changed=1
640 REPEAT solve_1
650   IF changed=0 THEN EXIT solve_1
660   checks
670   DrawGrid

```

```

680 END REpeat solve_1
690 IF NOT(Finished) THEN
700 PRINT #2,"Determining remaining
    cells recursively..."
710 MakeList
720 IF Guess(0) THEN DrawGrid
730 END IF
740 STOP
750 :
760 DEFine PROCedure DrawGrid
770 CLS
780 FOR i=0 TO 8
790   FOR j=0 TO 8
800     LET t=LN(grid%(i,j))/ln2
810     IF t==INT(t) THEN
820       PRINT t+1;" ";
830     ELSE
840       PRINT ". ";
850     END IF
860   END FOR j
870   PRINT \
880 END FOR i
890 END DEFine DrawGrid
900 :
910 DEFine PROCedure checks
920 LET changed=0
930 PRINT #2,"Checking horizontals..."
940 FOR i=0 TO 8
950   FOR j=0 TO 8
960     IF Confirmed(grid%(i,j)) THEN
970       FOR k=0 TO 8
980         IF k<>j THEN
990           IF grid%(i,k)&&grid%(i,j) THEN
1000            LET grid%(i,k)=grid%(i,k)
                &&~~grid%(i,j)
1010            LET changed=1
1020          END IF
1030        END IF
1040      END FOR k
1050    END IF
1060  END FOR j
1070 END FOR i
1080 PRINT #2,"Checking verticals..."
1090 FOR j=0 TO 8
1100   FOR i=0 TO 8
1110     IF Confirmed(grid%(i,j)) THEN
1120       FOR k=0 TO 8
1130         IF k<>i THEN
1140           IF grid%(k,j)&&grid%(i,j) THEN
1150            LET grid%(k,j)=grid%(k,j)
                &&~~grid%(i,j)
1160            LET changed=1
1170          END IF
1180        END IF
1190      END FOR k
1200    END IF
1210  END FOR i
1220 END FOR j
1230 PRINT #2,"Checking 3x3 squares..."
1240 FOR x=0,3,6
1250   FOR y=0,3,6
1260     FOR i=0 TO 2
1270       FOR j=0 TO 2
1280         IF Confirmed(grid%(x+i,y+j))
                THEN
1290           FOR k=0 TO 2
1300             FOR l=0 TO 2
1310               IF k<>i OR l<>j THEN
1320                 IF grid%(x+k,y+l)&&grid%
                    (x+i,y+j) THEN
1330                   LET grid%(x+k,y+l)=grid%
                        (x+k,y+l)&&~~grid(x+i,y+j)
1340                   LET changed=1
1350                 END IF
1360               END IF
1370             END FOR l
1380           END FOR k
1390         END IF
1400       END FOR j
1410     END FOR i
1420   END FOR y
1430 END FOR x
1440 END DEFine checks
1450 :
1460 DEFine FuNction Confirmed(a%)
1470 IF a%=256 OR a%=128 OR a%=64 OR
    a%=32 OR a%=16 OR a%=8 OR a%=4 OR
    a%=2 OR a%=1 THEN RETURN 1
1480 RETURN 0
1490 END DEFine Confirmed
1500 :
1510 DEFine FuNction Finished
1520 LOCAL i,j
1530 REMark Checks whether the grid is
    filled, i.e. puzzle solved.
1540 FOR i=0 TO 8
1550   FOR j=0 TO 8
1560     IF NOT(Confirmed(grid%(i,j)))
                THEN RETURN 0
1570   END FOR j
1580 END FOR i
1590 RETURN 1
1600 END DEFine Finished
1610 :
1620 DEFine PROCedure MakeList
1630 LOCAL i,j
1640 REMark Make a list of the coordi-
    nates of all the remaining uncon-
    firmed cells.
1650 LET cn=0
1660 FOR i=0 TO 8
1670   FOR j=0 TO 8
1680     IF NOT(Confirmed(grid%(i,j)))
                THEN
1690       LET cx(cn)=i
1700       LET cy(cn)=j
1710       LET cn=cn+1
1720     END IF
1730   END FOR j
1740 END FOR i
1750 END DEFine MakeList
1760 :
1770 DEFine FuNction Guess(m)
1780 LOCAL cell%,try

```

```

1790 REMark Recursive function tries each
      permutation of possible solution for
      each unconfirmed cell until the grid
      is successfully filled.
1800 IF m=cn THEN RETURN 1
1810 LET cell%=grid%(cx(m),cy(m))
1820 FOR try=1,2,4,8,16,32,64,128,256
1830 LET grid%(cx(m),cy(m))=try
1840 IF OKpos(cx(m),cy(m)) THEN
1850 AT cx(m),cy(m)*2
1860 PRINT LN(grid%(cx(m),cy(m)))
      /ln2+1
1870 IF Guess(m+1)=1 THEN RETURN 1
1880 END IF
1890 END FOR try
1900 LET grid%(cx(m),cy(m))=cell%
1910 AT cx(m),cy(m)*2
1920 PRINT "."
1930 RETURN 0
1940 END DEFine Guess
1950 :
1960 DEFine FuNction OKpos(x,y)
1970 LOCAL p,q,po,qo
1980 REMark Checks that a digit being
      tried in a cell is allowable.
1990 REMark Try other cells in the column
2000 FOR p=0 TO 8
2010 IF p<>x THEN
2020 IF Confirmed(grid%(p,y)) AND
      grid%(x,y)=grid%(p,y) THEN RETURN 0
2030 END IF
2040 END FOR p
2050 REMark Try other cells in the row.
2060 FOR q=0 TO 8
2070 IF q<>y THEN
2080 IF Confirmed(grid%(x,q)) AND
      grid%(x,y)=grid%(x,q) THEN RETURN 0
2090 END IF
2100 END FOR q
2110 REMark Try other cells in the same
      3x3 square.
2120 LET po=(x DIV 3)*3
2130 LET qo=(y DIV 3)*3
2140 FOR p=po TO po+2
2150 FOR q=qo TO qo+2
2160 IF p<>x OR q<>y THEN
2170 IF Confirmed(grid%(p,q)) AND
      grid%(p,q)=grid%(x,y) THEN
      RETURN 0
2180 END IF
2190 END FOR q
2200 END FOR p
2210 RETURN 1
2220 END DEFine OKpos

```

A sample input file

```

030506070
000000000
800309002
100000006
080050090
700602001
600103004
000000000

```

A Programming Challenge

by Geoff Wicks

QL-Today was well prepared. We had heard over the grapevine that readers were writing Sudoku solving programs, and knew it would be only a matter of time before one came our way. We were also working on the problem, but our task was to write a Sudoku puzzle rather than solve one. We wanted a puzzle to illustrate any article a reader might submit.

In his article Ian Pine suggests that writing a Sudoku compiler would be far more difficult than writing a Sudoku solver. George Qwilt, who demonstrated his Sudoku solver at QL is 21, shares this opinion. It is also my opinion.

When I looked at the Sudoku programs on the cover disks of PC magazines, all referred to the size of their databank of puzzles. Not one program actually generated the puzzles. Is there a QL-er who would take on this challenge?

There are two main programming difficulties. The first is designing a grid that conforms to Sudoku rules. The second is which numbers to remove from that grid to give a puzzle with a single solution.

Grid generation is not particularly difficult. It would be a simple bit of programming to randomly generate the 1st, 5th and 9th major squares of the grid. You would get a result something like this using Ian Pine's style of data input:

```

179000000
584000000
362000000
000841000
000592000
000673000
000000745
000000391
000000628

```

Entering this data into Ian's program quickly fills in the blank spaces to produce a complete grid conforming to Sudoku rules.

When QL Today prepared its own grid, Ian had not sent us his program so the blank spaces were filled in by hand using trial and error.

Once you have a grid you have to remove numbers from it to leave some sort of pattern, and this is where the programming nightmares occur. You have to know which numbers to leave and which to delete to have a puzzle for which there is only one solution. As this seems to differ for each separate grid it is impossible to work with templates.

The QL Today Sudoku puzzle was written with old fashioned pencil and eraser. Numbers were removed from the grid one by one to form a pattern and then the grid tested for a solitary

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | | 7 | | 8 | 5 | 9 | | 3 |
| | | | 1 | | 3 | | | |
| 3 | | 4 | | | | 7 | | 1 |
| 2 | 4 | | | | | | 3 | |
| 8 | | | | 3 | | | | 7 |
| | 7 | | | | | | 9 | 4 |
| 9 | | 5 | | | | 2 | | 8 |
| | | | 7 | | 6 | | | |
| 7 | | 1 | 2 | 9 | | 5 | | 6 |

solution. Eventually a point was reached where no more numbers could be removed because there was no longer a unique solution.

The result is here for you to solve. Sudoku aficionados will be critical of this grid because it has too many numbers remaining which makes it too easy. To our readers we throw out a challenge. When you have completed the puzzle you will have a complete grid. Could you now write a program to remove numbers to give a more difficult puzzle? Even more challenging could you do it

in a way that would allow the user to choose the difficulty level?

QL is 21

by Simon N Goodwin

Simon N Goodwin reports from the QL's 21st birthday party, organised by Quanta at the end of October.

It was impressive to see yellow AA signs announcing the cryptic (to most) news that 'QL is 21' dotted around Portsmouth. The committee promise that Quanta's next workshop should be more accessible to the majority who do not live on the southern edge of the UK.

This report discusses five aspects of QL history that made welcome and intriguing returns to the Qdos scene as a result of Quanta's latest show. I'm no longer a Quanta member since the decline of the newsletter in recent years, so I am very grateful to the user group for inviting me and my family to visit the show at the Hotel Ibis over the weekend.

Return of Sector Software and Digital Precision!

Former Sector Software boss Dave Batty made a welcome return to the QL fold. He is now owner of the Digital Precision brand - not by buying it from Freddy Vaccha, which seemed likely to be expensive and hassle-prone, but by watching the Companies House records carefully as the name fell into disuse and snapping it up himself, registering it to a new company, the day the old registration lapsed.

David is not planning on using the DP brand for more QL releases, but he has always liked the name and plans to use it in his current educational software business. But his interest in Qdos has been rekindled; after Sector Software stopped Qdos development he moved from QL to Amiga and has asked for a copy of Qdos Classic 3.25 after seeing Simon Goodwin's demo (despite falling asleep part-way through, and wondering why the topic seemed to have suddenly changed from digital photography to sampled sound - it had been a long day, working late on Friday and travelling down from Lancashire before dawn to meet the Quanta committee's challenge of a 10am start in Portsmouth. Despite the time and venue 43 people attended QL is 21, with active developers from as far afield as Scotland and Germany, ranging in age by 50 years. The total age range stretched past 70 years if you account for the presence of Simon's son Ingo Lyle Goodwin - last seen as one of the babes in arms at QL2000, and a true child of the QL, conceived en route from the North American NESQLUG and West Coast Sinclair shows the previous year.

Ingo busied himself between courses at the Saturday night dinner by collecting autographs - including middle names, if available, which dug out some true QL esoterica, like the fact that Stuart Honeyball's second name is 'Way' - from

not only the gathered QL illuminati but everyone else dining at the hotel Ibis that evening.

Miracles recalled

Stuart dragged up some memories of his time testing power supplies and working with the Sinclair development team - including John Mattieson, now at NVideo, and Ben Cheese, the sadly deceased inventor of microdrives - in Cambridge while the QL was still a secret project. He also revealed that he clashed with Gerry Jackson (author of Digital Precision's Forth and C compilers and the code-generator for Supercharge and Turbo) long before Qdos was invented, when they both worked for Ferranti - though not in the division that made the vital ULA chips for the QL, Spectrum or ZX-81. Stuart did own up to laying out the circuit board for the original (grey key) mark 1 version of the Spectrum. Later versions replaced Stuart's sweeping PCB tracks with a much tighter layout, when Sinclair realised that the 48K model was out-selling the basic 16K version nine to one and moved the extra 32K onto the main board.

Before long Stuart's Miracle Systems became the leading QL hardware development company, innovating with products like the Trump Card, QXL, Gold Card and Super Gold Card, but the most successful product, in Stuart's view, was the simple but vital serial to parallel converter that sold thousands, despite competition from clones, early in the QL's lifetime. This device - just a shift register and a 555 timer chip powered from the QL serial port - was essential for many QL owners who needed to connect their computers to printers expecting the standard Centronics parallel interface rather than the calculatedly minimalist, and perversely socketed, Sinclair SER1 port. In fact that product was designed earlier, serving a similar role on the Interface 1 with which Sinclair launched Microdrives, but the QL made it a must-have item. It also turned out handy for users of the later 128K Sinclair and Amstrad Spectrum systems, blessed with the same eccentric on-board serial port.

Quanta founder refund

Another welcome guest from QL pre-history was Leon Heller, who founded Quanta with Brian Pain in 1984. Their original newsletter was on show in the history display - it arrived months before the first working QLs. Leon failed to recognise the new-look bearded (and married) Simon Goodwin, despite having known him since both were involved with NATGUG, the UK National TRS-80

and Video Genie User Group at the start of the 1980s - but before long they were discussing VHDL (virtual hardware design language) and ways to boil up convincing simulations of ancient microprocessors in the latest gate array logic.

Leon's demo set-up included a prototype board that implemented the Motorola 6809 processor architecture - predecessor to the QL's 68K CPU - perched on a corner of a 400,000 gate Xilinx custom chip, which could be programmed on the fly to emulate whatever electronic design was expressed in VHDL (virtual hardware design language) on the host computer. Free and commercial VHDL clones of the 68000 already exist, supporting clock speeds up to about 100 MHz, raising the possibility of a single-chip QL clone - if anyone feels up to the challenge of reworking the ZX83xx chips in modern logic!

Qdos Classic

My own contribution to the workshop part of the event was a reprise of the demonstration of QL sampled sound extensions and my Kodak digital camera driver software - a free SuperBASIC program that allows a Qdos or SMS system to take photos under program control, download, decode and view images. This time I used Qdos Classic version 3.25 on my Amiga 1200 for the demo, and took more photos of the audience - at least one of whom failed to be woken even by the flash - to show the system in action, and keep a record of the event.

QPC author Marcel was a keen member of the audience (at least he was awake throughout) and after I explained the way that Qdos Classic sifts out all the hardware-specific parts of the emulation from the Qdos and SuperBASIC core, he managed an impressive hack which showed the power of the system Mark Swift devised. Within a few days of the show, armed with bits of QL device driver source, the open-source Classic Qdos routines for Q40 and Amiga hardware, and uniquely intimate knowledge of QPC, he managed to get authentic Qdos Classic running on top of the QPC 68K emulation core, with some extensions like the ATR device for access to PC floppies, level 2 (subdirectory) device drivers, which did not previously work in Qdos Classic, plus the latest sampled sound system as well as original QL graphics. He still much prefers SMSQ, for its features like direct entry of hexadecimal numbers, but the Qdos Classic port is impressive and may be useful for people who need or want to run original QL programs on a PC without going through the hoops of QLAYDIR file inser-

tion to run the old-style QL emulators QL2K and QLAY2.

This follows a similar cross-emulation hack by Mark Swift, who's managed to get the Amiga emulation UAE to run Qdos instead of AmigaOS by replacing the emulator 'ROM' file with a Qdos clone, in place of the Amiga 'kickstart' ROM image. Thanks to very faithful hardware emulation, the Amiga Qdos device drivers are able to run original QL graphics, BEEP, serial, parallel and clock port access, and even floppy disk emulation (typically diverted to hard disc files on the host system); though the chip-level emulation means the disc images need to be in raw MFM format - about 2 Mb rather than 720K per floppy image, with every pulse on the original media faithfully recorded, and it's not yet possible to swap in a QUBIDE hard disk in the same way as you can between real QL and Amiga systems.

QL archeology

Besides his presentation on Qdos Classic for the Amiga 1200, Simon's rucksack also disgorged a pile of little bits of metal and black plastic with special relevance to the history of the QL.

Augmented with several items from Tony Firshman, this was arrayed in numbered sections on one of the desks at QL is 21, to form a hardcore hardware quiz. QL archeologists were invited to identify each of the 17 lumps of obscure equipment, with extra marks for those who could say not only what each bit was, but what it was for. Items included some of the parts of the original QL that soon get lost, like the ROM cartridge cover, a plastic foot, and an early vacuum-formed dongle; several people identified this as the Kludge that accommodated the earlier versions of Qdos before Sinclair got the "AH" and "JM" versions to fit inside the QL case, but in fact it was another early product that used the same clumsy case - the Sinclair hardware diagnostic ROM package.

I doubt if anyone other than Tony Tebby, who wrote the code, or perhaps the late Dennis Briggs, would have identified this correctly. On closer inspection, with PEEKs, - this rare ROM turns out to be a SuperBASIC program, with a small machine-code bootstrap loader, which checks the functioning of the QL system by banging the metal and reporting the results; some of the tests require add-on hardware but I was impressed to find it ran on a 'modern' Gold Card QL with Minerva and SuperHermes.

Even more mysterious, but still identified by one expert, was the black box with 9 pole D-type sockets at each end and a trailing lead to a QL

cartridge card-edge with just two tracks for signals from the QL. This turned out to be an early QL mouse adapter - part of the GigaMouse package made by ABC Electronic in Germany - which converts quadrature signals from an Atari ST mouse into QL cursor key-presses. The ROM slot connection was needed for power, because the CTRL1 socket - unlike the serial ones used by Miracle - provided no power output.

Another almost unlabelled black box, turned out to be the MCS MultiROM. It's a ROM simulator - a RAM which - thanks to an extra wire inside the QL - can work as a ROM for rapid cartridge development.

Supercharge optical copy protection Lenslok, QIMI, ROMDisq, DIY MIDI cable (full marks if you said it would allow connection from the QL NET output to control synthesisers) and a DiRen network prover, plus other obscure widgets, filled the table.

Several people thought the Aurora cartridge adapter was a floppy disk widget. It has the same 34 way two-row IDC connector - indeed it plugs into the four-drive GoldCard adapter elsewhere in the quiz - but the vertical divider on the edge-connector side gave away that it was intended to accommodate a ROM board rather than an old-style (3" or 5.25") disk drive. You could use it to plug a ROM into a disk interface, but it certainly wouldn't work!

The top scorer was John Hall, who got 20 out of 17, clearly ahead of the others. John was, among other things, the only person who not only identified the nude ROMdisq but could say exactly what its capacity was, after a careful examination of the circuit board. The average score of 15 marks indicated that the nine brave people who entered had in-depth knowledge of QL esoterica. The scoring system was as eccentric as you might expect: one mark was given for each of the 17 items correctly identified, and half a mark for a near miss.

But the exact question, displayed alongside the offer of a £5 prize, was 'What's it for?' and replies that comprehensively answered this deeper question earned double marks, which is how John Hall and David Gilham managed to score a mark of more than 100%. Tarquin Mills, organiser of last year's ORSAM show in Norwich came third with a nominal 100%, just ahead of luminaries like Per Witte, Dilwyn Jones and Jochen Merz, with a trio of Johns - Gregory, Gilpin and Roberts - in hot pursuit, well ahead of the dozens who didn't enter or were disqualified as they'd supplied the prize or items to be identified.

Links - Virtual 68K cores

<http://vlsi-concepts.com/V68000.html>

<http://www.hitechglobal.com/ipcores/D68000.htm>

<https://www.cs.tcd.ie/Michael.Manzke/fyp2003-2004/DavidLynch.pdf>

<http://tech-www.informatik.uni-hamburg.de/vhdl/models/m68000/m68000.vhd>

<http://www.cast-inc.com/cores/c68000/index.shtml>

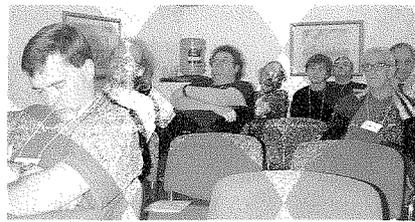
... more Pictures from the Show



John Sadler of the Scottish QL User Group meets up with former Sector Software boss - and now owner of Digital Precision - David Batty, at 'QL is 21'.



An automatically-taken picture of part of the workshop crowd at QL is 21 catches Bill Richardson power-napping in the front row.



After a pre-dawn drive south David Batty (left) appears to have nodded off - apparently he was baffled for a while when he woke up and found the discussion had moved on from digital photography to stereo sampled sound replay while he dreamed.



Qdos Classic running on Linux, MacOS and Windows systems, thanks to a replacement 'ROM' for the UAE emulator which adapts it from an Amiga emulation into one that imitates a souped-up Qdos system.

Marcel Kilgus got Qdos Classic running in place of SMSQ after some ingenious hacking of his QPC code, following demos and discussions at QL is 21.



Marcel Kilgus got Qdos Classic running in place of SMSQ after some

ingenious hacking of his QPC code, following demos and discussions at QL is 21.

Do you remember...? - Part 1

by Ralf Reköndt

Ralf, being known as a QLer for many many years (as long as the German publisher remembers) is also a collector. He recently re-appeared actively in the QL scene and sent us many scans of the DIN A5 brochures for original Sinclair software items, together with short explanations.

This article here (sort of) continues along Simon's historical excursion in the previous article. Some of you may have seen the items a long time ago, some of you may have never seen them before.

It would also be nice to know which products run on which hardware or emulator, so we may add a questionnaire at the end of the series.

Ralph writes:

All the screenshots in the brochures are real photographs, no screen dumps etc.

A larger amount of the software was produced using the "SPK" - Sinclair Software Production Kit ... also developed by Tony Tebby. It is a Super-BASIC extension which protected SuperBASIC programs from being edited. The concept behind this will be explained in detail in the next part of this series.

Other products were produced using BASIC, or Assembler, or even C. Sometimes it is a mixture of SPK and BASIC.

QL Decision Maker

Don't take risks when you have an important decision to make. Use your QL to explore all the possible outcomes before you decide on the best option.

Should you buy a new car, move house, change jobs, expand your business...? Important decisions like these shouldn't be taken lightly, but it isn't always easy to weigh up the consequences of every choice.

■ QL Decision Maker is a really practical way to use your QL to help you to explore all the possibilities and minimise any risks. You can be sure that you have looked at every avenue -- and even tried some that you might not have thought of before.

■ QL Decision Maker lets you see how chance will affect your choices. You have the freedom to ask 'What if...?' at any point you like and it is easy to work out the overall likelihood of any outcome.

■ Armed with this knowledge, you can build up a picture of the financial implications of your decisions. QL Decision Maker will advise you of the most appropriate and cost-effective route to follow.

■ Everything is displayed in a simple graphic format. And there's a comprehensive manual and interactive teaching program to help you to get started. The other side of this sheet shows some of the screens and explains how the program works.



Price:

£39.95

(includes comprehensive manual)

BRAINPOWER

Software written by:
Triptych Publishing Ltd.



5507

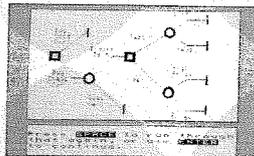
Using QL-Decision Maker

QL Decision Maker can be used to solve any problem where you have several choices, each of which might lead to a number of different possible outcomes.

Suppose you want to sell your old car and buy a new one. This isn't so simple if you have several to choose from, in varying conditions and prices. Should you buy privately or from a dealer -- and sell or part-exchange your old car? What if the one you buy breaks down? How much can you afford to spend on a repair? Is it better to pay more for a guaranteed car from a dealer? ...

Many decisions are even more complicated when you start to look into them, and picking the best route can be very difficult because any end result depends on the outcome of several other choices.

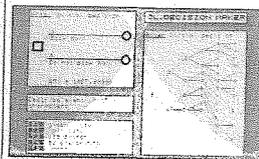
With QL Decision Maker, you will learn how to work yourself into the future using a structure which includes all the possibilities. QL Decision Maker does this with sophisticated techniques of decision analysis. But that doesn't mean it's difficult to understand, thanks to its simple presentation and clear display.



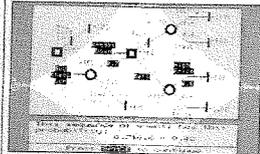
■ The basis of the program is a structure called a 'Decision Tree'. This is a diagram in which each alternative is shown as a branch. Any further options are shown as smaller branches, and so on until you reach all the eventual outcomes. The diagram shows not only where you have a choice, but also where

the result depends on chance, and what the financial implications are.

The teaching program contains a complete worked example, and QL Decision Maker shows you how to apply the technique to your own problems.



■ Just building up the diagram helps to ensure that you have considered things systematically. But now you can start to work out the likelihood of the different outcomes. QL Decision Maker lets you assign probabilities to each event and trace them through to the end results.



■ Major decisions usually have important financial implications. So QL Decision Maker shows you how to work out the expected monetary value of your options.

Even more importantly, you can calculate the risks involved, and see how both risks and rewards can be altered by changing the conditions.

QL Entrepreneur

If you are starting a business, already running one, or just want to know how they work, your QL can help you learn the principles of business planning.

As well as good ideas, any business venture needs proper financial management. Before you start a new business, you need to formulate a workable 'business plan'. This is most important to present your scheme convincingly to other people -- especially those who will be providing finance. And once a business is running, the plan will monitor its growth and help you avoid costly mistakes.

■ QL Entrepreneur is a complete business start-up kit which provides all you need to prepare and present your business plan -- not just in theory, but also with practical information on legal and financial matters.

■ First, a detailed teaching program helps you to understand how businesses work and what makes them successful.

■ Next, QL Entrepreneur helps you to prepare your own business plan and present it in a professional way. The program will question you for ideas, help to test your assumptions, and point out your weaknesses.

■ QL Entrepreneur is designed to be easy to use, and to present the information in a clear, interesting way. The other side of this sheet shows some typical screens and explains how the program works.



Price:

£39.95

(includes comprehensive manual)

BRAINPOWER

Software written by:
Triptych Publishing Ltd.



5506

Using QL-Entrepreneur

QL Entrepreneur isn't just a practical aid to financial analysis. It makes it easy to understand how businesses are set up and why they work in the way they do.

The first part of the kit is the Teaching program, which provides much more than just a guide to applying QL Entrepreneur to your business scheme. Its graphic demonstrations of what really makes a business work will stimulate your learning process and make sure you understand the mechanics of forming and running a company.

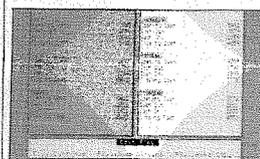


■ QL Entrepreneur's Teaching program and comprehensive manual take you through all the principles of profit (why it's necessary), cash flow (how to control it to your advantage), book keeping, and taxation. You will see how to set up some simple business schemes, analyse them, and predict their chances of success. When you are familiar with all of the concepts, you will be able to make full use of the Applications program.



■ The QL Entrepreneur Applications program will ask you for detailed information about the financial aspects of your scheme. It uses this to prepare reports for your business plan.

Armed with the knowledge you have gained from the Teaching program, you will find it easy to work out the information you need. The manual provides an extensive checklist of all the items required by the program.



■ Once you have entered the information, QL Entrepreneur is ready to perform the analysis. From this, it will:

- Work out the break-even point of your new venture
- Produce your first 18 months cash flow
- Analyse your working capital and inventory requirements
- Help you decide the type of finance you need -- and when you need it
- Produce your year-end balance sheet and profit and loss accounts
- Analyse your expenditure and revenues and show their effects on the profits.

You can ask 'What if...?' whenever you want to see the effect of making changes. Best of all, you can repeatedly alter your information until you have a workable plan that will satisfy both yourself and your backers. Then, you can ask for a print out of the results, to keep for reference or use as part of your business proposal.

The texts shows above are rather descriptive anyway, so it is a bit pointless to add more explanation.

Both programs are written in BASIC, using the SPK.

QL Today Insider CD

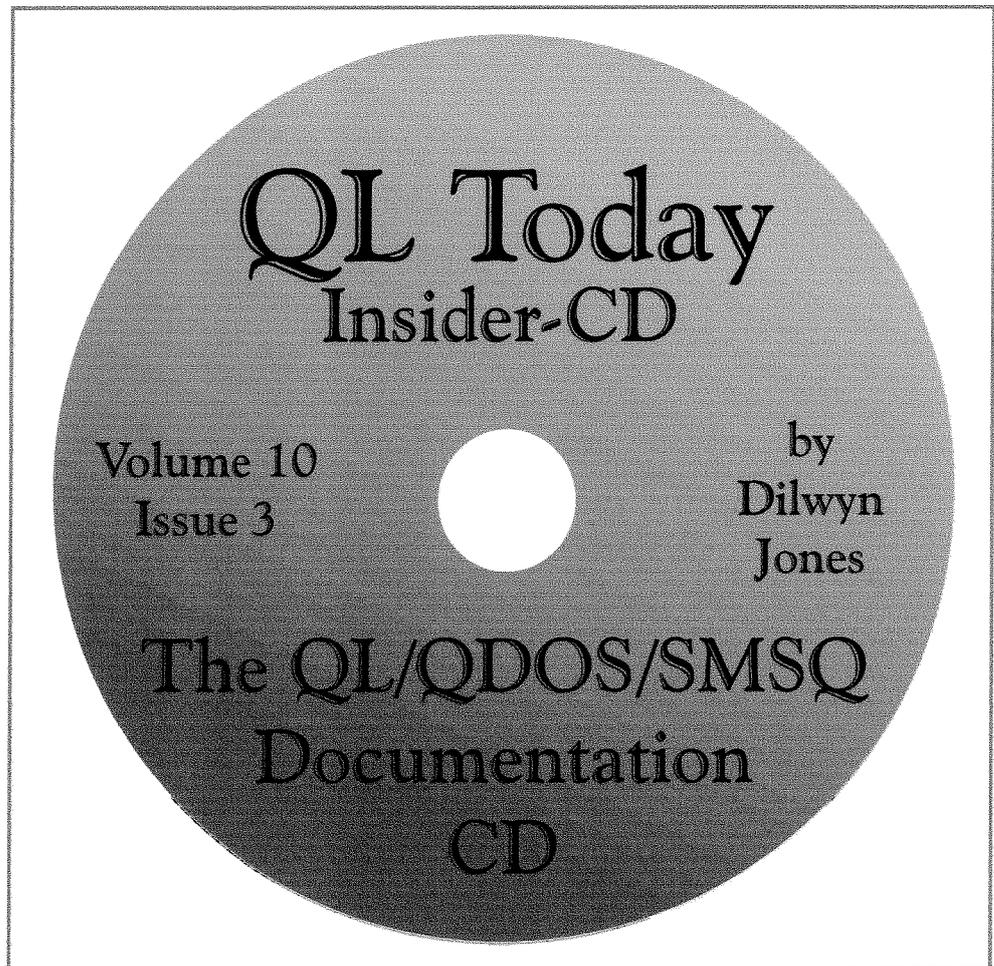
In the last issue, Dilwyn Jones listed the content of his QL Documentation CD, but neglected to inform readers where they could get this CD. Several people contacted us to ask, so we went one step further and in an exclusive deal for QL Today we managed to arrange that subscribers get a free copy of this huge collection of documents relating to the QL and compatible systems.

If your system can read QXLWIN files from CD (QPC, QXL, uQLx and QemuLator for Windows should be able to do this) you can access the files directly. The vast majority of the files are duplicated outside the QXLWIN, so should be accessible from Windows systems, for example. Most of the files are also zipped up in a directory called 'zips' to maximise accessibility.

Systems such as Q40 or Qubide with CD-ROM drives may not be able to directly read the CD, but there are free software tools available such as QCDEZE for Q40 users and recent versions of Discover which may be able to help you with transferring files.

Please read the READMETXT file on the CD for a list of the material on this CD. It's called README.TXT within the QXLWIN and READMETXT if you access it from outside the QXLWIN (e.g. from Windows).

This CD is technically freeware so please feel free to do the QL a favour and make a copy for other QLers you may know (and please tell them about QL Today at the same time). And we are sure that Dilwyn would appreciate even more material for future editions of this CD!



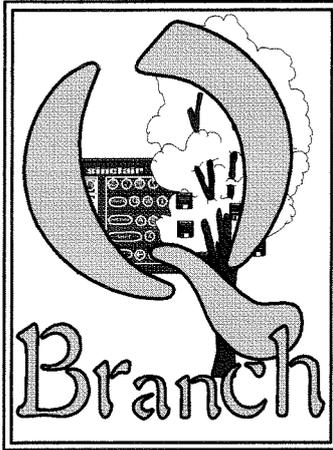
As the vast majority of material on the CD is freeware, you may well find that you can get most of it on the internet anyway, but it's so much more convenient to have it all gathered into one collection. The list in the last issue is a little out of date already - more material has been added, so if you already own a copy of this CD treat this as a free update!

We have placed the Insider CD "inside" and not on the cover of this issue for two reasons:

It is better protected during the postal transport, and it does not "ruin" the cover of the magazine (we received some complaints when we did the first cover CD some issue ago).

If, for any reason, the CD becomes damaged, you can send 4 International Reply Coupons to either QBranch or J-M-S to obtain a new one.

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| Easyptr pt 3 (C library) | £ 14.00 |
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| QMon / JMon | £ 22.00 |
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Combining Tools to Create a Search Tool

by Timothy Swenson

One of the philosophies of Unix is to not to re-invent the wheel. In other words, use the tools you have and combine them together to accomplish a new task.

A few years back I was thinking about storing a bunch of ql-users mailing list e-mail messages as individual files on the QL and then creating some sort of search and view tool. The tool would let you type in a search word, search all of the e-mails or text files, display a list of the results, and then let you view the search hit you want.

I was not too keen on writing the whole thing myself. It would entail writing a search tool and writing a section to display the results and the text files. This whole thing could come out to be a couple of hundred lines of code.

Using the above philosophy, I spent time looking for a couple of tools that I could then link together to get the job done. I knew that the Unix search tool, `grep`, had been ported to the QL and came with the C68 distribution. `Grep` is a fairly powerful search tool that has a well documented syntax, with instructions available for it from a variety of published sources. Using `grep` would allow the tool to utilize the power of the regular expressions that is used by `grep`.

As for the viewer, luckily, Dilwyn Jones has written a program called "Viewer", that is designed for viewing text information. It also has the capability of using hyperlinks. The program is a text mode only program, but hyperlinks can also be used in a text program and does not require a mouse driven interface.

The Viewer program can be used to create a menu system for linking to and display-

ing other text files. There is a format that the Viewer program understands as a link. In this case it is a file name surrounded by " and " signs. An example is:

```
<<win1_directory_file_txt>>
```

When the cursor is placed over this text and the ENTER key is hit, this file will be loaded in the Viewer. The Viewer has the capability of remembering which files it has loaded and the order. Once done reading a file, you can get back to the menu screen by hitting either CTRL ESC or SHIFT ESC. I find that SHIFT ESC works the best. I was testing the Viewer under UQLX-win32 and found the CTRL ESC is a Windows short key and

```
100 PRINT "Enter Search String"
110 INPUT search$
120 cmd_line$ = "-n "&search$&" *txt > ram1_temp_txt"
130 EXEC_W flp6_grep;cmd_line$
140 OPEN #4,ram1_temp_txt
150 OPEN_NEW #5,ram1_link_txt
160 REPEAT loop
170 INPUT #4,in$
180 IF EOF(#4) THEN EXIT loop
190 x = ":" INSTR in$
200 file$ = in$( 1 TO x-1)
210 in$ = in$(x+1 TO )
220 x = ":" INSTR in$
230 line_num$ = in$(1 TO x-1)
240 text$ = in$(x+1 TO )
250 x = search$ INSTR text$
260 length = LEN(text$)
270 IF x > 15 THEN
280     first = 15
290 ELSE
300     first = x-1
310 END IF
320 IF length > x+15 THEN
330     last = 15
340 ELSE
350     last = length
360 END IF
370 text$ = text$(x-first TO x+last)
380 PRINT #5,"<<";file$;"$";text$;"@";line_num$;">>"
390 END REPEAT loop
400 CLOSE #4
410 CLOSE #5
420 DELETE ram1_temp_txt
430 EXEC_W flp6_viewer_rtm;"ram1_link_txt"
440 DELETE ram1_link_txt
```

Windows will trap it before it goes to QDOS. SHIFT ESC did not have this problem.

The next question is how to get grep and Viewer to work together. I needed to figure out what format Viewer needs to be able to link to a file and a specific section of that file. Luckily, Viewer has a link format that defines the file to load, the description of the link to show in the Viewer, and the line number that it is on. The format of the link is:

```
<<q405_txt$ing other than WIN1_ can be use@001.>
<<q405_txt$the WIN_FORMAT comma@002.>
<<q405_txt$t if you enter WIN_FORMAT 1 and@004.>
<<q405_txt$rect syntax for WIN_FORMAT is WI@007.>
```

Knowing grep, I know that I can have grep output the name of the file, the line where the word was found, and the line number in that file. The default behavior of grep is to output the file name and the line where the match was found. Using the -n option, grep will print out the line number.

It was now my job to write some SuperBasic code to convert the output from grep to the format that is needed by Viewer. By doing a little string cutting and then some printing, the code to do this was quickly done. To automate the process, the code also a wrapper around the whole project and it called grep and Viewer for the user. To store the output from the grep command and to store the link file used by Viewer, ram1_ is needed. If you don't have one, then you can substitute any device.



Figure 1: The input screen

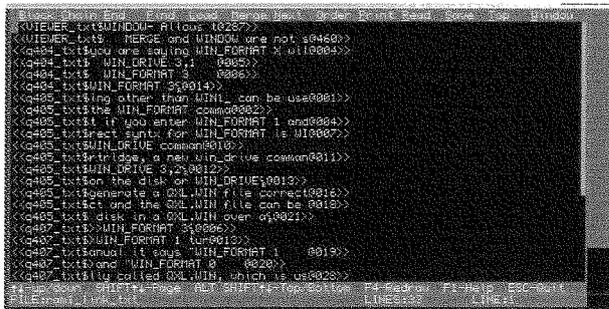


Figure 2: Showing the links in Viewer

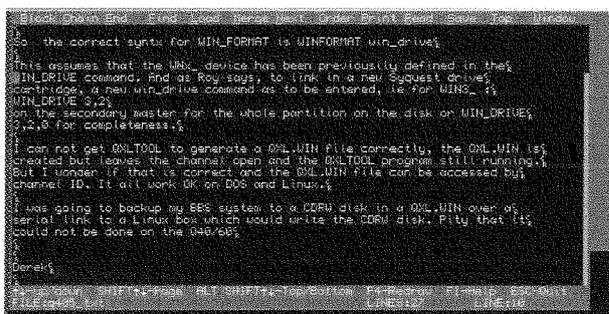


Figure 3: The results in Viewer

Bat Ball & Wall Game

by Stephen Poole

My first intention was to write a minimalist game, but the complexities of the code soon forced me to think otherwise. With over 70 lines of SuperBasic, I think I have done best by putting comments in the program wherever necessary.

LRUN the game under QDOS, or EXEC it under SMSQ/E. The game begins by asking you what 'speed' you want, (then hit any key to show the bat when the court appears). '25' gives extremely fast animation on QPC but is hard on the nerves, whereas '250' is OK for beginners. Lines 200 to 240 give explanations for the variable's abbreviations. Lines 290 to 330 set up a table for all the grid, which I imagine corresponds to the SCREEN\$ function of the Sinclair Spectrum, (a game of which gave me the idea for this program).

The 'Move the Bat' code first draws the ball, then a FOR loop repeatedly draws the Bat, allowing you the time to move it so you have a real chance of intercepting the ball. The code draws

the objects by using the 'AT' keyword, which can print an 'o' for a ball, or '---' for a bat very fast indeed. The inconvenience is that animation is done one row and one column at a time, so output is slightly ragged at low speed. One solution would be to program movements using 'CURSOR', but this would not be straightforward for diagonals, as QL character-blocks are non-square. The program is sufficiently cluttered with bounce-testing as it is! Otherwise, Blocks could be used, but square balls are not only unsightly but also uncomfortable (to the eyes of course!). Press 'A' to move the bat left, 'P' to move it right, or 'Q' to quit. If you want to use other keys, just adapt lines 480 and 490. Notice that when the bat hits the ball, the ball is nudged to the middle of the bat. This is to avoid the wall being left with bricks in a criss-cross pattern, which would otherwise occur with the present scheme of dia-

gonal ball movements. Remember that there will always be a reaction delay due to the time taken for the key to make contact with the membrane.

At first I tried to adapt the Spectrum listing for the QL, but this is always bad practise, as programs written for one machine are not necessarily well adapted to the technical specifications of another. So after some tedious time spent getting bogged-down in Spectrum bounce-management, I got out my squared paper and set out my QL screen-handling and bounce-coding long-hand, which, on the contrary, is good practise. That reduced debugging to a few 'typos', leaving me only to insert REMarks in the code and then to get me playing the game.

Well, the aim of the game is to smash a maximum number of bricks in the wall. For every brick eliminated you get one point. But every time you miss a ball, you lose one. The game stops when there are no bricks left. Don't worry, because at first you will almost certainly get negative scores, so keep practising. I don't think you will do as well as Borg or McEnroe, but it may while away a few pleasant hours, especially for younger folk who didn't live through the early heroic days of DIY computer games. Remember Basic is not really designed for fast output. For smoother animation we really need to rewrite the program in machine code, via an Assembler. Budding programmers could try experimenting with the initialisation code to change the size of the court. It is very easy to change the number of (rows) of bricks, or which row (y2) the bat is on etc. Don't ask me how to calculate a 'spin' drift or a 'lob' though. I would have to spend some time looking up cinetics in detail! Happy Smashing...

```

110 CLEAR: REMark Wall_bas. by S.Poole, v19jun2005
120 :
130 REMark Initialise the Screen:
140 OPEN#1,con_16: WINDOW 512,256,0,0: BORDER 0: CLS
150 PRINT: INPUT' Speed? (25 to 250)!'speed
160 SElect speed: =25 TO 250: =REMAINDER : GO TO 150
170 CLS: WINDOW 256,208,128,0: INK 4: BORDER 4,7
180 CLS: BORDER 0: OVER -1
190 :
200 REMark Initialise the variables:
210 REMark grid_rows=rw: grid_columns=cl: left=lf: right=rt
220 REMark vertical_direction=vt: horizontal_direction=hz
230 REMark ball_y=y: ball_x=x: top_row=tp: bottom_row=bt
240 REMark bat_x=x2: brick_rows=rows: bat_y=y2: brick_counter=ct
250 rw=19: cl=40: lf=1: rt=cl: vt=+1: hz=+1: y=9: x=20
260 tp=1: bt=rw: x2=15: rows=2: y2=rw-1: ct2=0
270 DIM t$(rw,cl): ct=0: Xit=cl*rows
280 :
290 REMark Prepare and draw the Grid:
300 FOR i=1 TO cl
310 P 0,i,'_': P rw,i,'_'
320 FOR j=1 TO rows: t$(j,i)='#': P j,i,t$(j,i)
330 END FOR i: i$=INKEY$(#1,250)
340 :
350 REPEAT loop
360 REMark Draw the ball:
370 P y,x,'o'
380 :
390 REMark Erase a Brick if it is Hit:
400 IF t$(y,x)='#' THEN
410 t$(y,x)=' ': P y,x,'#': vt=+1: ct=ct+1: BEEP 12345,67
420 END IF
430 :
440 REMark Move the bat:
450 FOR f=1 TO speed
460 P y2,x2-1,'—': i$=INKEY$(#1): P y2,x2-1,'—'
470 REMark Key interpretation: 'a'=left, 'p'=right
480 IF i$='a': x2=x2-1: IF x2<=lf: x2=lf+1
490 IF i$='p': x2=x2+1: IF x2>=rt: x2=rt-1
500 IF i$='q': GO TO 810: END IF : REMark Hit 'q' to Quit
510 END FOR f: P y,x,'o'
520 :
530 REMark move the ball:
540 x=x+hz: y=y+vt
550 :
560 REMark See if any edge-bounce:
570 IF x<lf: hz=-hz: x=x+1: BEEP 123,4
580 IF x>rt: hz=-hz: x=x-1: BEEP 123,4
590 IF y>tp: vt=-vt: y=y+1: BEEP 123,4
600 IF y>bt: vt=-vt: y=y-1: BEEP 1234,255: ct2=ct2+1
610 :
620 REMark Does the Bat strike the Ball? :
630 IF y=y2 THEN
640 xx1=(x-(x2-1)): xx2=(x-x2): xx3=(x+(x2+1)): REMark splat
650 IF xx1 OR xx2 OR xx3 THEN
660 IF xx1: x=x+1: REMark nudge one square right
670 IF xx3: x=x-1: REMark nudge one square left
680 IF x<lf: hz=-hz: x=x+1: REMark bounce
690 IF x>rt: hz=-hz: x=x-1: REMark bounce
700 vt=-vt: BEEP 1234,5: REMark vertical inversion
710 END IF
720 END IF
730 :
740 REMark Is game over? :
750 IF ct=Xit: EXIT loop
760 END REPEAT loop
770 :
780 REMark Epilogue & Tidy up the Screen:
790 P rw,1,'Score: '&(ct-ct2)&' Another y/n ?'
800 i$=INKEY$(#1,-1): IF i$='n' OR i$='q': ELSE RUN
810 WINDOW 512,256,0,0: BORDER 2,2: CLS: OVER 0
820 WINDOW 256,206,256,0: BORDER 2,2: CLS: STOP
830 :
840 DEFINE PROCEDURE P(p1,p2,p$)
850 REMark Get rid of listing clutter:
860 AT p1,p2: PRINT p$
870 END DEFINE

```

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Off Topic - What is DocBook?

by Norman Dunbar

This is a slightly off topic article, but it does have a slight relevance - I'm converting all my 'tutorial' articles for the assembly language series into DocBook format. This is a standard file in XML format. The actual XML tags are defined by the DocBook DTD file.

Editor: As Norman's work can be found on the "Insider CD" in this issue (hard work to get it all done in time, but thanks to Dilwyn, it got updated) we felt it is not off-topic at all.

All of this is a bit technical, but suffice to say that a DTD describes how an XML file, based on that DTD, should look - what tags are permitted and so on - and unless the XML file conforms, it is invalid.

The DocBook convention is simply an XML file, formatted according to a DTD which defines the required tags etc for use in a DocBook source file. Once a valid XML file has been created, there are various transformation programs which convert the XML into almost any other format you require from HTML, plain text (I think), RTF, HTML Help files (a Microsoft thing) and even PDF files. From one single source file, I can build many different output files and any changes to my single source will be replicated when I next generate the various formats - so I only need to do one update.

What's the process?

When I wrote my articles originally, I wrote them in plain text (in QL/Unix format) on a PC using an editor named PFE (Programmer's File Editor) - which is no longer supported - and then simply zipped them up, emailed them to Dilwyn and/or Jochen for import into whatever programs are used to produce the magazine.

I wrote them on a PC not because I wanted to, but because I was usually at work doing them in my lunch hour.

Now, I'm taking all those original text files, editing them to make sure that all bug reports have been corrected in the text and formatting them as XML files in DocBook format. These files are loaded into my DocBook system (XML Mind Standard Edition free from <http://www.xmlmind.org>) which allows me to make corrections, validate the XML and then format it as HTML.

I'm converting each article into a separate chapter, and all the chapters will then be collated into a book.

What does it look like?

The following is a brief excerpt from the top level 'book' - I'll try to explain what is going on below it:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook
XML V4.3//EN"
"http://www.oasis-open.org/docbook/xml/
4.3/docbookx.dtd"
[
<!ENTITY chapter_1 SYSTEM "chapter_1.xml">
<!ENTITY chapter_2 SYSTEM "chapter_2.xml">
]>
<book>
  <title>QL Assembly Language
Programming</title>
  &chapter_1;
  &chapter_2;
</book>
```

The above is actually the top level file for my finished chapters. As I convert additional chapters, I shall add them into this file and the book will get bigger. Obviously, I have converted more than just the first couple of chapters!

The first line must be present in any valid XML file. It defines the fact that the file is indeed XML, the version of XML in use and what, if any, character set is in use.

```
<?xml version="1.0" encoding="UTF-8"?>
```

In this case, we are using XML version 1.0 (the only version at present) and the UTF-8 character set.

The next line tells whatever application that is reading the file, what the document type really is. We know already that it is XML, but as XML is used for just about everything these days - it's currently 'flavour of the month' - we need more information.

So, the following tells our application that the file is a 'book', that its structure is defined in a DTD file for DocBook version 4.3 in English language.

The full DTD can be found online at the URL given, however, to avoid the need for our application to go online all the time, we cache a local copy of the file and use that instead.

When we have a local copy, the URL given obviously no longer applies. However, a catalogue file which contains the URL and the local location is used, and hence, there is no need to go on-line to find the DTD.

The lines enclosed in square brackets '[' and ']' allow me to define a short name for an 'entity',

specify its actual location – in this case, the same folder as my top level file – and later on, include these entities. This is very much like the 'IN' command found in many assembler source files to include another file at that point.

```
<!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook XML V4.3//EN"
"http://www.oasis-open.org/docbook/xml/4.3/docbookx.dtd"
[
<!ENTITY chap1 SYSTEM "chapter_1.xml">
<!ENTITY chap2 SYSTEM "chapter_2.xml">
]>
```

You can see from my 'entities' above that I have two files, named chapter_1.xml and chapter_2.xml, which I refer to as chap1 and chap2 respectively. They will be used (and abused) later.

The remaining lines define the book proper and use the entity names explained above to include chapter_1.xml and chapter_2.xml at the appropriate place.

```
<book>
  <title>QL Assembly Language Programming</title>
  &chap1;
  &chap2;
</book>
```

We already mentioned that the DOCTYPE is a 'book' and here we show our 'book' tags. Following the book tags are the title tags which are used to give the book a title. At this point, I could include other tags to give author details, a preface, foreword etc – but I have not.

Finally, we have the two entities mentioned above. These are simply the two files holding the XML for chapters 1 and two. These are inserted at the appropriate place and the book is complete.

DocBook XML has far too many tags etc for a simple introduction, but the main ones I use are as follows:

`<book>` as defined above, encloses the entire book.

`<chapter>` defines a chapter. A chapter can comprise one or more sections, listings, paragraphs, diagrams etc. Chapter's are numbered automatically by the translation system. (See below)

`<section>` defines a small, usually self contained, section of text. Sections can be nested to any level (I haven't hit a limit yet). Sections, like chapters, are numbered automatically.

`<para>` defines a paragraph of text.

`<programlisting>` defines code fragments.

`<screen>` defines output on screen, usually the result of running a `<programlisting>`

`<emphasis>` allows me to emphasize parts of the text.

`<itemizedlist>` lets me set up lists. Each entry in the list is a `<para>` and these `<para>`s are enclosed in `<listitem>` tags. It gets very messy after a while – and I'm keeping things simple!

You will note the Americanisation (Americanization ?) of the spelling in tags.

And those are about all the ones I use frequently.

Example Chapter

The following is an extract from the very first chapter of the book and corresponds to the first ever article in the series. To save on the number of pages required, I have removed chunks (just a number of `<para>`s) and replaced them with '....' in the following.

```
<?xml version="1.0" encoding="UTF-8"?>
<chapter>
  <title>QL Assembly Language Programming</title>

  <section id="ch1-intro">
    <title>Introduction</title>

    <para>Assembly language is very, very simple.</para>
    ....
  </section>
  <section>
    <title>Register Direct</title>

    <para>This is an easy one to start off with. Register direct addressing mode simply means that both the source and the destination in the instruction are registers either data, address or a mixture of both.</para>

    <para>Simple examples are :</para>

    <programlisting>MOVE.L A2,D1
MOVE.W D0,D1
MOVE.L A1,A3 </programlisting>

    <para>These simply move (actually, they copy) data between various registers. The full meaning of the actual instructions will be described later on.</para>
  </section>
  ....
</section>
</chapter>
```

XML Translation

Once an XML file has been created, it is converted using SAXON – an XSLT Engine – which reads an XML file, an XSL stylesheet and produces an output file which is basically 'programmed' by the XSL file. It is this template file which allows the input file to be converted to a different format in the output. A simple example is shown at the end of this article.

One XSL file reads XML and writes HTML while another XSL file reads XML and produces RTF files instead. Of course, nothing is ever simple, and there may be a number of intermediate steps to go through to convert from XML to another format.

To convert an XML file to PDF, for example, requires initial conversion to an FO files (Formatted Object) before the FO file is massaged into a PDF file using yet another Transformation.

Summary

So, that's 'all' there is to it. I write in DocBook now, and use XSL template files to render my DocBook files as plain text or whatever and eventually, I can 'bind' them together into a book. Watch this space for a possible cover disc and/or download of the HTML files – and maybe even a PDF – of all the articles in the Assembly language series.

Glossary

DTD – Document Type Definition. A file which describes the valid tags and attributes etc that may be contained within a valid XML file which uses the DTD. It effectively provides a set of rules which define how the author can write XML that is 'legal'. As XML is extensible, some form of validation is beneficial.

XML – eXtensible Markup Language. A markup language, like HTML, but which can be extended by allowing the author the ability to define any tags s/he likes.

XSL – eXtensible Stylesheet Language. A file which contains 'code' which is used in conjunction with an XML file and an XSLT engine, to produce a new form of output file using data in the XML file processed according to the XSL stylesheet.

XSLT – XSL Transformation. The process of transforming XML using XSL to give a new output.

XSLT Engine – Saxon, for example, is a Java program written to perform XSLT actions using various formats if input XML files and assorted XSL files to determine the output format.

Example XML file

The following simple XML file is written to the DocBook rules as defined in the specified DTD. This file will be transformed using the XSL stylesheet that follows to produce some HTML code.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook
XML V4.3//EN"
"http://www.oasis-open.org/docbook/xml/4.3/
docbookx.dtd">

<document>
  <title>Using DocBook, XSL and XSLT</title>
  <para>Docbook makes life easy when trying to
  produce lots of different output
  formats from a single input file.
  </para>
</document>
```

Example XSL stylesheet

This stylesheet is used to process the above XML file to produce an HTML file as shown below. This is quite a simple stylesheet – they can get very very complicated indeed!

```
<?xml version='1.0'?>
<xsl:stylesheet
  xmlns:xsl="http://www.w3.org/1999/XSL/
  Transform" version='1.0'>
<xsl:output method="html"/>

<xsl:template match="document">
  <HTML><HEAD><TITLE>
  <xsl:value-of select="./title"/>
  </TITLE></HEAD><BODY>
  <xsl:apply-templates/>
  </BODY></HTML>
</xsl:template>

<xsl:template match="title">
  <H1><xsl:apply-templates/></H1>
</xsl:template>

<xsl:template match="para">
  <P><xsl:apply-templates/></P>
</xsl:template>

</xsl:stylesheet>
```

The above works by starting at the 'root' which is specified as 'xsl:template match="document"' line. In that template, the text "<HTML><HEAD><TITLE>" is output, followed by the contents of the 'title' tag in the source XML file – which it looks through the XML to find, then the text "</TITLE> </HEAD> <BODY>" is output. (See below).

After that, the 'xsl:apply-templates' template is applied. This simply proceeds through the XML file looking for a tag or attribute which matches one of the defined templates. The first thing it finds is the 'title' tag (again!)

Within the `<xsl:template match="title">` template, the text `"<H1>` is output.

This is followed by another call to `<xsl:apply-templates>` which, because no template is defined for the text between the `<title>` tags, simply outputs the text itself. This is followed by `"</H1>` to close the heading tag in the HTML file.

The `<para>` tag in the XML file is matched by the `<xsl:template match="para">` template, which simply outputs a `"<P>` tag, uses the default processing to extract the paragraph text from the XML and copy it to the HTML output file and closes the paragraph with a `"</P>` tag.

As no more templates can be applied, processing continues back in the `<xsl:template match="document">` template by outputting the text `"</BODY></HTML>` to close off the HTML file.

The resulting HTML is shown below.

Example HTML output

```
<HTML><HEAD><TITLE>
Using DocBook, XSL and XSLT
</TITLE></HEAD><BODY>
<H1>Using DocBook, XSL and XSLT</H1>
<P>Docbook makes life easy when trying to
produce lots of different output
formats from a single input file.</P>
</BODY></HTML>
```

The above looks quite untidy and not very well formatted for human readability, however, you won't normally be reading it, only your browser. If you do need to make changes, the XML file is where you would make them - or the XSL file could be changed.

Base Conversion

by Dilwyn Jones

Here is a short listing designed to convert numbers to any base (up to base 36), and to convert a non-decimal number string to decimal base 10. The program consists of two functions.

The first, `To_Base$`, takes a positive decimal number and converts it to a string representing that number to the given base. For example, `PRINT To_Base$(65535,16)` converts the number 65535 to base 16 (hexadecimal) and returns `FFFF`. `PRINT To_Base$(255,2)` converts the number 255 to base 2 (binary) and returns `1111111`.

Do not try to convert to base 1 though! The routine isn't meant to handle negative numbers - if you want it to do that, consider it your project to amend it to do so in the way you want it to!

For bases beyond base 10, it will use letters to represent higher digits, A for 10, B for 11, C for 12 and so on. As there are 26 letters and 10 digits, this limits the routine to base 36, although you could modify lines 160 to 200 to use other characters to represent higher digits, e.g. you could make the routine use A-Z (upper case) for the first 26 digits beyond 9, then lower case a-z for the next 26 digits, that should allow it to handle up to base $10+26+26$ or up to base 62, and other symbols could be used beyond that if you really wanted to.

The second function converts a non-decimal number to decimal. `PRINT To_Dec('FF',16)` converts the value FF from hexadecimal base 16 to decimal 255.

```
100 DEFine FuNction To_Base$(dc,base)
110   LOCAL x,c,c$
120   x = dc
130   c$ = ""
140   REPEAT loop
150     c = x - (INT (x/base) * base)
160     IF c < 10 THEN
170       c$ = CHR$(48+c) & c$
180     ELSE
190       c$ = CHR$(55+c) & c$
200     END IF
210     x = INT (x/base)
220     IF x <= 0 THEN EXIT loop
230   END REPEAT loop
240   RETURN c$
250 END DEFine To_Base$
260 :
270 DEFine FuNction To_Dec(bs$,base)
280   LOCAL d,l,n,v
290   d = 0
300   l = LEN(bs$)
310   FOR n = 1 TO l
320     v = CODE(bs$(n))
330     v = v - 48
340     IF v > 9 THEN v = v - 7
350     IF v > 15 THEN v = v - 32
360     d = d + base ^ (l - n) * v
370   END FOR n
380   RETURN d
390 END DEFine To_Dec
```

Toolkit 2 provides base conversion functions BIN and BIN\$ for binary numbers and HEX and HEX\$ for hexadecimal numbers. These functions are built into SBASIC for SMSQ/E users, and SBASIC users can also denote hexadecimal numbers directly in programs by preceding the value with a '\$' symbol, so you can use either LET a=\$FF, or LET a=HEX('FF'), or LET a=255 directly on SBASIC. Likewise, you can prefix a binary num-

ber with the '%' symbol, so you can use either LET a=BIN('11'), or LET a=%11, or LET a=3 directly in an SBASIC program.

This means that for binary and hexadecimal base conversions, this routine is not really needed, although it does provide an insight into base conversion techniques and an interesting little programming project in its own right, showing what can be achieved with just a few lines of BASIC.

Progress at J-M-S

by Jochen Merz

Several issues ago, I wrote about "the move" situation with the J-M-S office and related problems.

As many people ask via email about the progress, I think it is now time to provide semi-final pictures and a status report.

The time situation is still very critical, due to various other problems - I won't go into detail but it is just my typical luck: nothing works, problems everywhere, and everything takes at least three times as long as expected.

It seems that I have to spend 20-30% of my available time having devices (everything from a simple water tap to electronic devices) replaced, repaired, exchanged against other devices, in some very bad and dangerous cases, going to court. And whenever one problem is solved, two others pop up. Anyway.

where are all the EPSON printers? Well, that was true until EPSON decided to get rid of ESC/P2 completely, and when they introduced the chip-ink-cartridges.

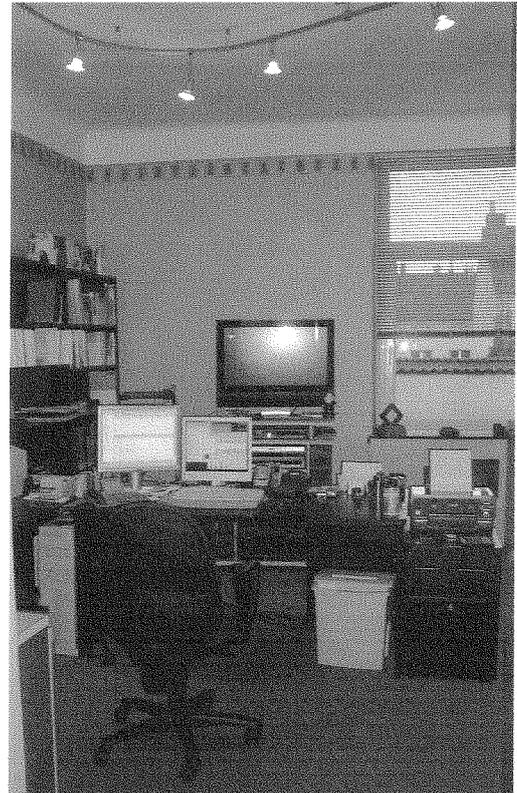
Still, there is one big EPSON printer on the first picture - an old laser printer (which can handle the GQ mode to print most of my manuals). You'll find it next to the bright display. Next to it is a copier/fax/scanner/printer from Canon, an excellent device. So far, this only went once for repair. Underneath, there is Canon Pixma IP4000... nice printer - and yes, there is a second one in the right area of the desk. Nice printer, but very, very slow if you print duplex. It takes the printer two hours to print the EasyPTR 4 manual.

... and there is also a small EPSON POS printer. Below, a view from the "server room" door.

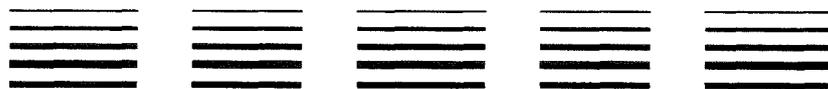


The move is not quite complete yet. At the old address, one room (the old office) has been totally cleared, and the furniture from the office is now here, at the new address (mostly 25 year old, black Ikea stuff, but still fine, see above).

You will probably remember that I used to praise EPSON printers in the past at every show and in QL Today. So



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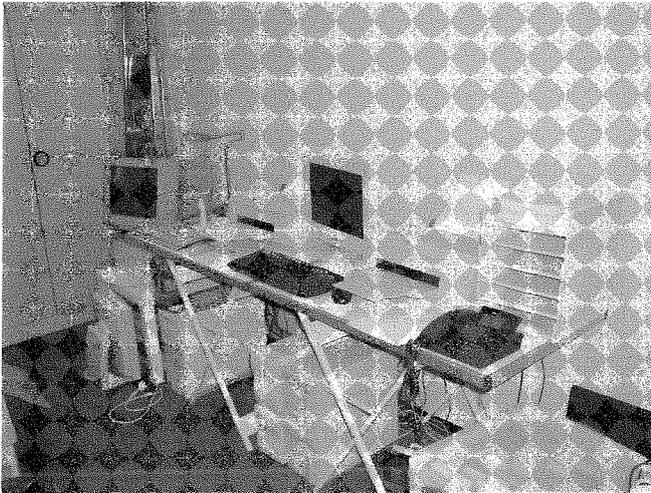
Or

Visit the Quanta Web Site

<http://www.quanta.org.uk>

E-mail: membership@quanta.org.uk

You may remember that there had been a hole for a wall-safe under the window (behind the paper in the right Canon Pixma). If you ever visited me in my office at the old address (smaller, less space - a lot less space!) then you'll find that the new office is much nicer.



The "server room", which I used as an intermediate office during the move, is equipped with some EPSON printers (see above, two 900's) and another on the right-hand side, outside the picture. It looks a bit messy, as part of all the stuff taken from the old address is still in boxes, and part of the stuff is still "im stillen Winkel", in the second room.

Both machines act as fax server to receive faxes, print them and send them via email - quite a useful feature. I also use them for backups ... even more useful, as you will know if you ever lost important data.

By the way, the picture above contains 4 non-working devices, 3 visible, one hidden. No surprise.

So, whenever things take a bit longer as expected, there are many possible reasons, like my old laserprinter is giving me a headache (but there is no choice as it is the only one capable of GQ mode) or I can't find stuff because it is somewhere in boxes (here or at the old address).

Progress on the other rooms is slow ... actually there has not been much progress during the past few months.

Money needs to be earned, QL Today needs to be done... And yes, there were also some QL orders in November and December, many emails had to be answered and much, much more.

I even managed to do some work on the SMSQ homepage in November. I will add items step by step, and you can also find more updates on the update server.

There is also a section "program of the month"... it may be worth looking from time to time - you could find a bargain.

The current issue of QL Today was, after some time, more enjoyable to produce than the previous ones. The first time for a long time, no need to chase and beg for articles - most of them were there before the deadline! We even had to hold back some articles (see Geoff's epilogue). Great, please continue to write.

The next issue of QL Today should be ready at the Eindhoven QL show ... it will be the larger Eindhoven event of next year, where the English dealers plan to be present as well (Roy will pick up QL Today, so we've shifted the release date slightly).

Maybe I'll find some time in between improve the kitchen (still bare walls) ...

Letter-Box

Steve Poole writes:

Thankyou for QL Today Volume 10 Issue 2. To run under QDOS, Page 40, line 120:6 should read

```
data_ct=0
```

and not

```
word_ct=0
```

These slight incompatibilities are due to SMSQ/E automatically assuming a value of 0 for non-initialised variables. Sorry my fault...

... and Steve asks:

In 1984-5 I used my QL in my surveying job to calculate and print out land drainage projects. At

the moment I have no need of such printed output, but it would appear that QPC2 produces oblong-screens and ellipses instead of square and circular output.

By rewriting the QL's graphics functions I could get QPC2 to produce correct aspect ratios, but surely this deformation limits the professional use of QPC2 drastically?

In confidence I must admit that maybe I do not yet fully understand the QPC2 system, but I feel I must mention this question now, as I do risk needing accurate print-outs soon, and I have no printer for the SGC machine.

Marcel Kilgus replies:

The problem here is that traditionally QLs used a 2:1 aspect resolution (512x256) on TV/monitors with a 4:3 aspect screen area.

Therefore pixels were not square but elongated on the Y axis. To compensate for this QDOS included an aspect ratio factor in all its graphics calculation to make circles really look like circles on screen. This factor was actually different on PAL and NTSC QLs, because of slightly different screen aspects of the TV screen.

SMSQ/E always used the prevalent PAL ratio $2/((4/3)*(575/512)*(51.2/51.95))$ for all its calculations.

The problem now is that PC screens usually use square pixels, so all the calculations SMSQ/E does will result in distorted pictures there.

In SMSQ/E v3.00 I addressed this problem by making the previously fixed screen aspect ratio a variable.

There is no command to directly alter it, but if you've got the POKE_F command (poke floating point value, available in the Turbo Toolkit or the next SMSQ/E release - I know this because I wrote the code 5 minutes ago), you can use the following code to set the aspect ratio:

```
POKE_F PEEK_L(!;$C4)+$14A, 1
```

Or, lacking POKE_F and for the case of value 1:

```
POKE_W PEEK_L(!;$C4)+$14A, $0801
```

```
POKE_L PEEK_L(!;$C4)+$14C, $40000000
```

This sets the ratio to 1:1, which should be fine with most PC resolutions/monitor combinations. Circles will be circles again.

BEWARE however that some applications might still assume the old ratio of 1.355217 and might look odd after altering the variable!

Furthermore, if your existing printer hardcopy driver previously printed real circles on paper, it has probably incorporated code to take the original QL pixel shape into account. This means that, even though by default circles look like ellipses on QPC's screen, they should be correctly printed to paper. But if you, on the other hand, fix the visual appearance on screen they will probably look too narrow when printed!

On CRT monitors one alternative to all of the above might be to run QPC2 in full screen mode while selecting a 2:1 ratio SMSQ/E resolution like 1024x512 and adjusting the monitor so that the SMSQ/E screen fills the whole display.

On LCD screens one can run QPC2 in window mode and specify a window height that is larger than SMSQ/E's Y resolution, which results in an interpolated image: in other words it's a bit ugly but at least in the correct aspect ratio.

If you need further help, please contact me directly.

Marcel's Homepage is:

www.kilgus.net

Last Minute News

QDT News

After nearly a year at introductory pricing, as of February 10th, the price to purchase QDT will increase to the standard production pricing of 59,90 EUR.

QDT has been shipping for nearly a year at an extremely low introductory price, especially considering the amount of functionality being gained by those using it and the development time that continues to go into QDT. The pre-announcement of the price increase is being done to allow those who have been thinking about the purchase to do so and experience substantial savings with the original introductory pricing.

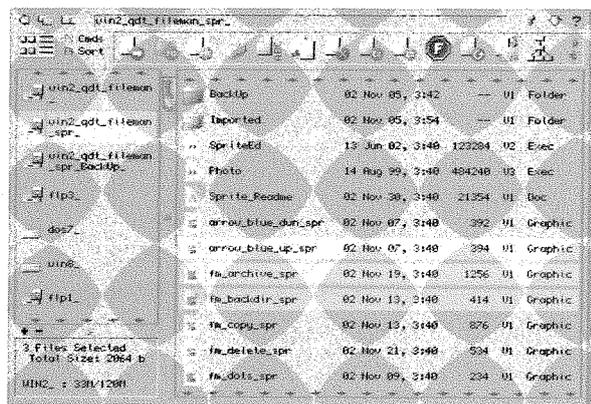
The functionality has been steadily increasing from day one, with major improvements from the recent drag and drop moves and upcoming File Manager object. Of course, even with the new

level of functionality that this all brings, there are many enhancements and new features planned over the next year. Free upgrades will continue to be offered for purchasers for the next 6 to 12 months, until a certain level of the feature set has been achieved.

The first File Manager release will hopefully take place towards the end of the Christmas/New Year's Day holiday. It will have all the expected file manager functions, full integration into QDT [graphics by Thorsten Herbert, drag and drop, command passing between objects], and a slew of features formally only available through a variety of separate file management type programs [full directory structure copying, archiving, QDT object creation, etc].

A screen capture of the File Manager object is included, showing just one of many different

views/display configurations that is being supported.



Success

Bob Spelten writes:

Success2 now at version 2.03. This may be old news for some because this version was already launched on October 15th at the Eindhoven show but for everyone else here is a summary of the changes I made.

One of the main reasons for this update was of course the arrival of the long awaited upgrade of EasyPTR by Marcel Kilgus. In fact, as soon as I got my hands on a Beta version I started implementing the changes in Success2. Marcel also found and cleared some old bugs in EasyPTR's MAWDRAW routine that gave unpredictable results displaying multiple columns, essential for Successfully scaling the window.

Thus the most visible change for the user is that the main window is now fully scaleable from 512x256 to 1024x768. Also the list of fixed sizes can still be used, the last one in the list is always the maximum for the current screen and can be a non standard size. The sub menus for Alignment, Columns and Print will also be scaled to the number of fields in the database. For some

time consuming operations the "WAIT" window will be gradually filled by a progress bar. There is a new Quick-View option in the Files menu. It lets you peek at another database without closing the current one. Many of the icons now have double functions. Hit or Do have their own options then.

The biggest change in functionality is in the Fields menu. Selecting a field from the Field list now makes that the new first field on the screen. Adding and deleting fields will now adjust the _css and _saf files and so will keep any alignment, columns, sort or searches you may have set. Whole fields can be copied, cleared or changed to CAPS or lowercase. This way field types can be redefined (an old option that was never implemented). Insert a new field, then copy the data and delete the old one. Success2 tries to copy between any type but will mark those that give conversion problems and then report a message so you can check these fields before deleting the old data.

More changes. If a Search selection has been made and you give a new one which doesn't find a match, the current Search will be redone where before you went back to the "all records" view. From View-Record the FileInfo2 option is now available too. Tap F3 in the Edit window (also scaled to fit the text) and you can change the text to CAPS or lowercase or use Ctrl-S to swap the case for one character (like on the Z88).

Because of problems reported by users, I rewrote some error trappings and added new ones. Success2 only runs under SMSQ/E 3. A trial version can be downloaded from Wolfgang Uhlig's site www.uhlich.nl/ql/

Full versions can be obtained from Jochen Merz Software or QBranch in English, German or Dutch.

Epilogue - Miracles Do Happen!

by Geoff Wicks

At the beginning of November Jochen and I were very despondent because we had just one article for this issue of QL Today. Then suddenly the miracle Jochen asked for in the last issue occurred. During the course of November we received a constant stream of copy, but unfortunately too much to fit into a single issue. We had to give priority to QL is 21 items and then fill the rest of the magazine partly on a "first come, first served" basis and partly on preserving a balanced content. Apologies to those writers who must wait a little longer to see their work in print.

We can give you a foretaste of issue 4:

Accessing the internet from the QL (part 3)

Using digital sound in your programs

Illustrating lectures using a QL

More details on the "Home Thing"

A jargonless tutorial on using the new colours

Thanks to all the people who helped us fill issue 3 and make a start on issue 4. However we still do not have enough to fill the next issue. Sorry to appear like Oliver Twist, but please could we have some more?

Some time ago I was introduced to a new browser for the PC called Firefox. I liked some of the features that it had, even though it was, at the time, very lacking in compatibility for some of the secure sites I used. Over the last year it has improved its compatibility and become my first choice for a browser. I have mentioned it in passing before because I was not really sucked into the hype that it was completely secure and had not 'security holes' in its code. This was borne out a whole slew of fixes which had to be issued in order to patch it for just this reason. This is not, however, going to be a big treatise of browsers and the like.

The reason I mention it here is that it has one aspect which we could look at because it is something we have done with the QL for a while and we should try to do more in the future. That aspect is the number of small add-ons that are available to make it do new and interesting things. One of the features of Firefox is the ease with which third party software can be integrated into the main program to add features. Now I do not know if that is because of the way it is written because I have no knowledge of programming on that level (or, indeed on many of the levels below it!) but it is obviously more possible to hook stuff into this program than other big name software.

SMSQ/E holds a similar position in that the code is generally available and new features could be added into the system in a similar way. This has been done for some time. Much of the stuff you load at BOOT time with LRESPR commands, links into the O/S and adds new commands and functions and it would be nice if we could extend the O/S a lot more. I know that Jochen has long had plans to integrate the Menu Extensions into SMSQ/E but there have been various reasons why it has not, so far, happened. Some of these are due to getting the BASIC command integrated when the extension loads I believe.

Our system really lends itself to small, fast, utilities - little jobs that do things in a quick and efficient way. Most of the applications for QL system will fit on a floppy and a large amount of these will go on DD floppy. This is an area we should be exploring more.

Looking back at the history of SMSQ/E I can see that there has been a steady stream of improvements and add-ons since the code was thrown open and I am only saying this because I want to

try to get this stream to turn into more of a river - not to say a flood.

Oh, and while I think about it, how about a new version of QD which has tabs in the same way that Firefox does? I often have two or three QDs open at the same time and it would be nice to be able to have just one window with three files in tabs. Just a thought.

Not staying in the Background

Of course there have been a lot of extensions to SMSQ/E anyway and one of the leading innovators has always been Marcel Kilgus. Just recently he sent me, out of the blue a new SMSQ/E which allows the background updating of buried windows. This has been a leading contender on the Wish List of many people for some time and it was on the original list of planned improvements when SMSQ/E was first introduced back in September 1994. The biggest problem I had in trying to test this new feature though was finding something that was slow enough to be still running when I moved a window over it! back in the old days there were any number of programs that I could start and leave running while I moved something over part of their window but QPC2 on my PC here is just too fast. In order to check that it was there and running at first I had to put a menu over the top of the Sysmon window and watch half the text updating on the buried window. In the end I had to resort to firing up ACP and zipping a whole slew of files whilst writing a piece for the magazine in QD which just buried the progress window.

Also, as usual, Updates and bug fixes arrived before I had managed to find the bugs. How does he do that? I am now writing this using the latest test version and it is running absolutely smoothly. I have to agree with his comment in the email he sent when he whizzed over this version 'I have so far not succeeded in making this version crash or misbehave. Fingers crossed, but it's really cool'.

Yes you are right it is really cool.

So far I have not seen a release date for this work and I suspect there may be some more testing going on but I hope that you may see the new version by the time the magazine goes to press. I am also not sure whether this is to be a QPC2 only innovation or if all SMSQ/E variants can join in. Maybe there will be something about this in the News section.

Very FEXing

In spite of what I said at the start of this I am, as you all know, very much in favour of regulating the way SMSQ/E is updated. I have been accused, in the past, of being overly picky about this but I do think it is an important issue because so many users use old software that cannot be updated. This little story illustrates just what I mean.

There are times when you think you have something nailed down only to find it is just your own thumb. This happened to me during the testing of the QPC2 version I mentioned above. I get sent these new release versions and run them to look for any problems that there may be. Now it is possible that I do not do anything very taxing with my QL software but very often, as I said before in this column, several versions arrive here and I have not seen a bug in any of them. Sometimes it is just an improvement to the handling of something or a bit of a speed increase but very often the authors talk of large bugs while I have never so much as felt the wind of their wings as they flew over my head.

I was very pleased, therefore, to find a QPC2 bug in the second version that Marcel sent to me. I documented it and sent it to him only to find it was not a bug at all and even worse for my sleuthing skills, not even in the QPC2 SMSQ/E. Once Marcel had explained the problem to me I saw what had happened. In the course of writing my article on software for the Start Here series I quickly ran a couple of things to make sure I was describing them correctly. When I ran Disk Mate 5 under the new QPC2 I got errors and QLiberator 'Red Screens'. The problem lies in the FEX command. DM5 was written some time ago and the author used the FEX commands that were created then to link it in to FileInfo II. This has worked very well for the last 10 years or so but, shortly after the release of SMSQ/E someone wrote a new FEX command which did something completely different and this was included in the new SMSQ/E. So far so good. Everything worked as normal.

I loaded the new copy of FileInfo II which has support for another new development for SMSQ/E and that is Wolfgang Lernerz's Home directory. It seems there was a config block in FileInfo II which will turn the old FEX command on and off (since it is FileInfo II that actually loads it when it is started) and the new version has the command turned off by default. The FEX command that DM5 was trying to use was the new one and the parameters and use were wrong so the program fell over. The new FEX command is overwritten by the old FileInfo II when it is loaded

because it is started after SMSQ/E is loaded. Why this does not cause a conflict of some kind when it loads I do not know.

In many ways I find this to be unsatisfactory. I recalled that the command was introduced some time ago, but I did not pay it much attention at the time because it did not seem to cause any problems but an older command should not be usurped by a newer one. How do you know how many programs out there used this command?

As it happens it is no big deal because I do not use DM5 for launching programs but I do use it for some of its other features which I find very useful. It does give a 'Red Screen' at the start which can be passed through and the program still works. I think Pal Monstad, who wrote DM5, said recently that he did not have the source code any longer so there is no chance that we could change the program to use the new File-Info II command. I don't know if a QLiberated program can be patched to fix this either.

It is, however, a case which should not be allowed to happen again.

QL is 21

QL is 21 seemed to go very well although I was somewhat disappointed that my demonstration of Jim Hunkins latest efforts with QDT were squeezed out of the program. I had asked to be put on late in the day because I only got the updates on the morning before the show and wanted to be able to install and run them a while before doing the talk. As it was some of the other presentations overran and I did not get my turn. I am not going to do a big advertising thing for QDT here (this is not the place) but I should mention, since I have been closely involved with the testing and progress of this, the amount of work Jim is putting into this project. When I saw the first demonstrations a couple of years ago at a US QL show I felt this was one of the most ambitious projects undertaken on the QL since ProWesS and the results, so far, have been very good. One wonders how much better ProWesS would have been if it could have taken advantage of the colours and other improvements available to us now. I got a couple of emails from Jim as I was putting this column together and I gather that he hopes to have stage two of the updates ready for release by Christmas - maybe by the time you are reading this. The main raft of this will be the file manager, which, from the screen shots I have seen, looks to be a real winner.

My only other comment on QL is 21 is that the program of talks was, maybe, too ambitious for

the time available. For my own part the cost of travelling there was quite small and a musical gig the next day prevented my attending the second day of the show. For Jochen, who had to travel from Germany and stay overnight, the costs were a lot higher and the talks may have kept some potential customers from his stall. This would have made the whole trip more expensive for him.

I brought a lot of my spare QL parts to the show and had intended to give a lot of the older ones to the Quanta repository. Some were accepted gratefully but the 20 or so QL PSUs I had with me were deemed to be surplus to requirements. I also offered these to Tony Firshman but he said he had a whole box of them at home already. In the middle of the afternoon he went off to one of the talks and I took the opportunity of slipping all 20 into one of his boxes behind his stall.

I was sure he would notice the fact that the box now weighed four times more than it did when he brought it in but, as I sat with a glass of wine after the show, Jochen and I watched him carry the box out to his car. We have been in contact a few times since the show and he has not, so far, mentioned the extra items. He must be stronger than he thinks. They are your Christmas present, Tony.

And Now For....

We do not end this year on such a white hot haze of innovation as we ended the last one but, nevertheless, it has been a good year for the QL. Interestingly enough some older QL names have been popping up both at the shows (Good to see Stuart Honeyball and David Batty at the QL is 21 show) and on the user group list where several people, who long ago disappeared below the horizon, stuck their heads above the parapet. What we need to do now is to engage their interest and get them to do some more writing or updating their older products to use the larger screens and colours that are available today.

I know that there are a few new things bubbling away beneath the surface and I am looking forward to 2006 to see what will appear.

Xmas Entertainment

As is now traditional at this time of year I will now be presenting you with a list of Films Books and music which will interest QL Users over the festive season.

Bruce Willis will play the venerable head of T.F. Services in his new gangster action movie **Firsh Man Standing**

Meanwhile another T.F. Services luminary, Lau

Reeves will appear in **SuperHermes - the Movie**.

And a Phoebus, in a Greek remake of the Sponge Bob Square Pants film, '**Absorber the Greek**'

For nostalgia fans we have

Gone With The WIN1_

King Dong(le)

The Gold(card) Rush

From the sixties there is:

Easel Rider

Lau Litre - Laurence Reeves again in a film about under age drinking on the continent

Historical drama is served by **Jones of Arc(hive)**

Musically we have four new singles vying for the charts :

Quill Crazy (after all these years) by Paul Sysmon

Super Gold Card by ABBA(cus)

Staying Archive by the Bee Ceas (Bill Cable that is)

Takin' It EASY(ptr) by The Easels

There is also a re-release by PSION and the Belmonts: **RUN "Around_Sue"**

Finally.. A few Tracks from the forthcoming 'Sing Along A QL Today' album featuring classic tunes sung by well known QL faces past and present:

'**Love Merz**', by the Auwera Brothers

'**I Promised You A Miracle**' by Stuart and the Honeyballs

'**My Perl**' by Jonathan Hudson

'**Anarchy in the UK (QL Show)**' by Tony Firshman

'**My Old Man's a Firshman**' by Ben

'**Me and Dilwyn Jones (Got a THING going on)**' by Darren Branagh

'**Another Little Pizza My Heart**' by Marcel Kilgus

'**Da Do Ron Ron**' by Ron and the Dunnettes

'**Two Pints of Cola and a Packet of Crisps**' by Jochen Merz and

'**I Don't Wish it Could be Christmas Every Day**' by me.

Classic Books include:

Bleak Mouse by Charles Dickens

The QubbeSOFT Machine by William Burroughs

Of MICE and men by John Steinbeck

And the text in our local church will be the **SERmous on the Mount**.

Have a good Christmas and a Happy New Year
- See you at a show soon.

The QL Show Agenda

International QL Meeting - (NL) Eindhoven

Saturday, 25th of March, 10:00 to 16:00

Pleincollege St. Joris, Roostenlaan 296

We expect all major QL dealers to be present and plan to have the next issue of QL Today ready for you.

The Quanta Workshop & AGM

Manchester - more details in the next issue

Sat./Sunday, 8th/9th of April

The Hove Quanta Workshop

Same venue as always - more details in the next issue

Sunday, 28th of May

Come to the Shows!

To our surprise, a number of visitors at Portsmouth were QLers who have never been to QL shows before - during the last 21 years of QLing. Well - if YOU have never been to a show, then it is REALLY time to come! You will find nice, friendly, and strange people (but always nice) and it has always been an entertaining, social event. Admission is free - so why not come along!

**THE QL-TODAY TEAM
WISHES OUR READERS
HAPPY NEW YEAR AND
ALL THE BEST FOR
2006!**