The pot of gold

Idealism and big ideas are often assumed to be the prerogative of the young. **Patrick Field** meets a company whose use and advocacy of the free system is the product of experience

Rainbow Cyber's David Bell and David Holden have two aims: to promote the use of Linux, and to meet the need for local businesses and residents to get connected to the Net

This is one rainbow you can get to the end of. Just make your way out of London by the Bath Road, step through swanky Knightsbridge, down Kensington High Street, past Hammersmith, breeze by the style bars and antique shops of Chiswick, and ask your way to the Job Centre. Next door, up an exterior metal staircase, on the top floor of a rickety old two-storey building, like bandits lurking in the bushes just beyond the campfire light, you'll find two greybeards preparing for the great leap forward.

David Bell started in typography, and has worked in graphics and advertising, while David Holden is an electronic engineer by training. Together, they use Linux to offer a range of services including a cyber cafe, training, web design, consultancy and networking. Their enthusiasm for the OS is fuelled partly by a recognition of its utility and economy and partly by resentment of the unnecessary and inefficient corporatisation of territory in which they have been long-term pioneers.

We settle down to talk in the reception area of Rainbow Cyber Services which doubles as David Bell's office. Behind a door is David Holden's workshop, complete with a wall of tiny component drawers, bench vice and vinyl turntable. Six workstations, pointing in alternate directions down long tables, are shoe-horned into an adjoining cyber cafe space where another machine runs a colour printer. Two more beige boxes are hidden in a cupboard by the ISDN plug, one running a Trustix firewall, the other a back-up server.

Adapting experience

"We've got no computer qualifications because when we were at school there weren't computers," explains Bell, "but we've 20 years each, broad-based, hands-on experience in computing. We started on a Sinclair Mk 14 which had no delete key and no backspace."

"And no way of storing information", adds Holden, who built the machine from an article in Popular Electronics magazine in the distant 1970s.

"Every time you wanted to use it," Bell continues, "you had to enter two A4 pages of hexadecimal code. If you made a mistake you had to go back to the beginning. I think I managed to use 'Duck-shooter' once."

The two Davids went on to set up a globally networked DOS-based BBS electronic bulletin board in 1990 and continued to run it for eight years. "We began using computers for communication when nobody else was doing it." Says Bell. "Apart from the 3000 subscribers we had at our peak," corrects Holden.

"We first came across Linux, trying to improve our bulletin board, in 1995," continues Bell. "We downloaded a system from another bulletin board onto 36 floppies. We'd no knowledge of Unix and only Matt Walsh's excellent installation HOWTO textfile for help. It took us three weeks to get the 'Welcome to Slackware 2.0.0 kernel' prompt on the screen. We soon saw the possibilities were amazing. When the Internet came along we tried to ignore it for about a year, but it quite quickly killed off our bulletin board. People just switched over, we went from 100 calls a day to two or three. So we realised we had to move across."

Breadth of knowledge

They swiftly developed their skills in web design, server-side programming and a practical understanding of networking and TCP/IP communications. Their complementary technical and graphical backgrounds, combined with their enthusiasm for open source operating systems, finally led them to form their limited company two years ago.

"What we offer is our broad base of knowledge," says Bell. "We're not really cutting edge. We've worked with all kinds of operating systems and we know a little bit about just about everything. This company is all about providing the facilities for helping people to connect with the Internet, right the way from our cyber cafe, through training in Internet skills and in website design and management, up to consultancy and advice to companies on developing their Internet strategy."

The cyber cafe offers six dual-boot machines, giving surfers a level of choice they won't find in most similar establishments. In Linux mode, the clients run the Ice

Window Manager configured to provide a very stripped-down desktop – just Netscape, Acrobat reader, and a few games – while in Microsoft mode, the interface is the familiar one of Windows 98. "Most users, naturally enough, choose Windows because it is what they are used to, I guess," says Bell, "but some, equally, do insist on a Linux machine."

The mature portfolio

Rainbow's main income stream comes from web design, and their portfolio includes prestigious clients such as Hammersmith's Lyric Theatre and Pink Triangle hi-fi, as well as sites for companies selling recruitment services, security systems, used Mercedes motor cars, robotics and even fireplaces. According to Bell, some of their local business clients just know they've got to get up there but haven't any idea of what to put on a site, so an important part of the job is in the initial consultancy.

Although he's not averse to using tools like Java animation or even Flash to create eye-candy effects for website clients, when it comes to teaching people about making websites, he thinks that there's nothing to beat starting from the ground up with the code itself.

"We like our trainees to get a grounding in what the HTML actually does, and out of the HTML editors available for Linux, my choice is Webmaker. For a start, you can achieve a lot with standard HTML anyway, and it's much less time-consuming than producing presentations in Flash. Also, if people learn by using a WYSIWYG editor, they don't get to see what's going on – and in fact a lot of those programs produce code that's very difficult understand even if you do look at it."

Joining the dots

Custom-tailored networking rounds off the Rainbow Cyber offering. "We set up small networks or can add to existing ones. The Lyric is also a client of our networking business," says Holden, the engineer. "Everybody there had their own Internet connection. We gave them a central server which routes all the mail to the right desks.

"Linux, of course, allows them to carry on using their existing workstations, seamlessly interconnecting them by using protocols like Samba, the service which makes a Linux machine look like a Windows machine to Windows hosts.

"We even give support to networks other people have put in, but we much don't like doing that. They're generally Windows-based networks, and when they crash, they really crash. Linux systems are much more stable, so that's why we prefer working with them."

David Bell illustrates the point with a gesture to the Rainbow server. "We've had that machine running for two years and it's been off twice: once when the ISDN line was fitted and once when I was working on it from another location and switched it off by mistake."

Rainbow is an appointed reseller of SuSE Linux, chosen primarily for its ability to cope with UK ISDN out of the box. For the office server they use it to support standard base ELSA cards costing in the region of £50. "It configures straight up with hisax, part of the I4L [ISDN4Linux] suite that's standard in SuSE," says Bell. "The SuSE configuration tool, YaST, is very comprehensive, allowing you to configure up firewalls, the ISDN line and pretty much all the other interfaces."

The real motivation

Supplying cyber services and consultancy to local SMEs is Rainbow's bread and butter, but their training services and promotion of the Linux operating system are what

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motivates the enterprise. They've been advertising in the local press offering free training – the campaign has only drawn a couple of students so far but Holden and Bell are undaunted – they also provide remote training under the irresistible acronym Rainbow Internet Online Training.

"We prefer to assist the voluntary sector." Says Bell "That's where the money shortage is." He is disappointed with the government's apparent lack of enthusiasm for open source. "They're phasing out 'IT for all' and replacing it with 'UKonline.gov.uk' but if you search for 'Linux' you get routed to some obscure educational site."

As well as raising the profile of Linux, Rainbow is dedicated to fighting the ageism prevalent in IT and ICT. "I've been unemployed," explains Bell, "and if you're over 40 no one is interested. All the IT managers are about 30 and they don't want to employ people who are older than they are. We see it when we advertise for staff here. The older people who come in are just expecting a kick in the teeth."

"It's such a waste," chips in Holden. "There's a skill shortage, and the government's only answer is to bring in people from overseas."

Meanwhile Bell has logged on to Slashdot and is casually scrolling through the latest software releases checking for anything useful. "People used to laugh at us for fiddling about with computers," he recalls, "and now everybody uses them." The Davids' optimism for the future of open source is reinforced by this experience. Having seen the world rotate around them once, changing their position from wacky weirdoes to respected gatekeepers with valuable knowledge, they are happy to wait for history to repeat itself.

But their confidence that the performance and value of Linux will eventually be recognised seems to make them even more frustrated with its current invisibility.

One of the larger employers locally, and one in which Bell has contacts, is a certain public service broadcasting corporation. "The BBC has 30,000 computers but the ones that really matter, the ones that have to stay up all the time, run Linux. The people who make *Tomorrow's World* use Linux but whenever you see a computer on the programme it's always running Windows.

"There's a lot of Linux out there, but most people just don't know about it. What we need is a national awareness day. Dreams are OK, but you don't get anywhere without hard work."

Rainbow Cyber Services office spec

Six cyber cafe clients:
Minimum P200 processor, 5Gb IDE hard disks, dual boot SuSE Linux (versions 6.2 to 6.4) / Microsoft Windows 98

SuSE Linux server providing connection to Net and proxy services for browsing:
450MHz AMD, 128Mb RAM, 20Gb IDE hard disk

SuSE Linux backup server for connection to Net:
450MHz AMD, 64Mb RAM, 8Gb IDE hard disk

Firewall:
180Mhz IDT WinChip, 40Mb RAM, 500Mb hard disk, featuring Trustix XSentry 1.1 – all admin is carried out on a Windows machine graphically

Office/admin:
PIII-based workstation

Net connection through BT ISDN 2, now managed by Cable and Wireless

Productivity package:
StarOffice for spreadsheets and letters, although more things get done by email client (Netscape) than any other means

Additional software:
Webmaker, Bluefish (with PHP commands inbuilt), mySQL, PHP3, the GIMP (an excellent package for drawing and editing pictures)

Network connections:
10Mbit/s Ethernet UTP – "quite fast enough"
ELSA Quickstep 1000 ISDN cards, configured with hisax in isdn4linux suite (standard in SuSE)
No separate router – Linux machine does all the routing
Various scratch machines, incl an intranet server

All machines built in-house

Rainbow Cyber Services
www.rainbowcyber.co.uk