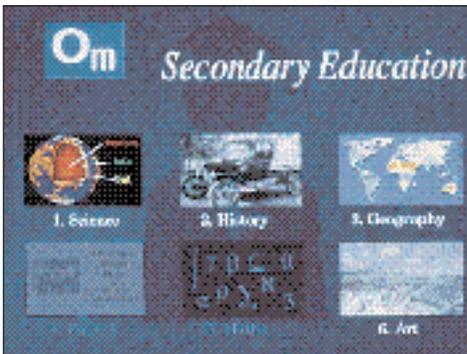


# Interactive Multimedia for All

Alan Wrigley gets excited about Acorn's latest venture, unveiled in our news pages last month

By chance, I'm writing this article while on holiday in my favourite county of Cornwall. A few yards away from me is a prehistoric stone monument, a still-potent symbol of the technology of a long-forgotten culture. In the distance is a

reminder of a much later technology - the derelict engine house of a tin mine from the heyday of the industrial revolution. On my lap is a



miracle of modern technology - an A4 portable on which I'm typing this article. And in my hand is a press release from Acorn detailing the next great leap forward - interactive multimedia. For those who believe, as many do, that the ancient stone monuments were used by prehistoric civilisations to tap into the global energy of the planet, the wheel has indeed come full circle.

Before I get carried away, let me explain my apparent flight of fancy by saying that I am very excited about this new development, which I believe will be more significant for our society than the recent proliferation of computerisation that made it possible. Interactive multimedia will become a truly global and all-encompassing concept embracing everyone everywhere. The prospect is at the same time exciting and frightening; exciting because it opens up possibilities for communication and information exchange that could not have been dreamed of until recently; frightening because every advance in communications technology brings with it the potential for increased centralisation of the provision of information, and manipulation by whatever authorities are currently in control of the process.

## IS IT A BIRD...IS IT A PLANE...? NO, IT'S SUPERHIGHWAY

So what exactly is interactive multimedia, and where does Acorn fit into this brave new world? The answer to the first question, according to Acorn's publicity, is a convergence of the entertainment, communications and computing industries; and to the second, Acorn's new offshoot Online Media will produce the hardware needed to access the resulting information superhighway, together with software and support for those who wish to provide the multimedia services on which the whole thing depends.

This description of interactive multimedia sounds quite grand enough, but when you start to let your imagination loose on the possibilities, it becomes positively mind-boggling. The basic idea of the concept is that consumers will have a box which sits on or under the television (Acorn calls it a set-top box or STB, so we will stick with that for the moment). This will be connected to the telephone or cable line at one end, and the television or other output device at the other, and will have a remote control handset to access the range of services provided.

At this point, old hands might be forgiven for recalling with some scepticism the hype that

surrounded the launch of Prestel all those years ago; the promise of an information explosion for all - home banking, home shopping, up-to-the-minute news services and so on, all accessible via a terminal which plugged into the telephone line and displayed its output on the television.... The same thought crossed my mind when I first learned about Online Media, but I believe that this time the information explosion will happen, for various reasons that will become clear in this article.

The major difference between now and then is the huge leap in technology which has taken place. Two major advances stand out in particular. Firstly, when Prestel was launched there was no such thing as a personal computer - the nearest equivalent was a Sinclair ZX80. Nowadays we are all quite used to having information shoved at us on VDU screens wherever we go. And secondly, it is now possible to send full-motion broadcast-quality video down a telephone line. Compare this with the 40-column, block graphics Teletext-mode Prestel display and I think you can see why this will be the key to consumer acceptance this time. To be sure, home banking and shopping will be among the services offered, but with a vast difference - our News pages last month gave you a flavour of the service by describing how you might be able to pause a film you are watching to hear about a car for sale, see a video of the car and order a test drive from your front door. Or you could browse through a selection of clothes, ask to see them modelled by someone of your build and colouring, then order on the spot if you like what you see.

But the service which will ensure that interactive multimedia appeals to the mass consumer market is video-on-demand. British Telecom has been talking about this for some time, and sees it as a way to combat the growing threat to its market from cable operators. Video-on-demand means that you will be able to use your STB handset to request a film from a huge selection on offer. The film will then be downloaded to your set in real time for you to watch there and then. For the dedicated couch potato, this means no more trips in the wind and rain to the local video

hire shop, only to find the film you want is out of stock. Not only this, but suppose you missed last week's episodes of Coronation Street - no problem, just dial up the programs and watch them on demand. This will revolutionise TV viewing and schedules - in fact in the longer term it could mean the end of schedules as we know them.

The same goes for audio. The system will have CD-quality sound, so you would be able to download sample tracks from various CDs to



listen to on your own hi-fi. You might even be able to specify your own selection of tracks from multiple sources which would then be compiled onto a single CD for you to buy.

Maybe you like to keep up-to-date with what's going on in the world, either generally or in relation to certain specific interests. An interactive news service will be available, which can be tailored to your own interests. Suppose you are passionate about football and the archaeology of Roman Britain. The system will be able to gather together any news items that relate to these subjects and present them as your own personal electronic newspaper. It could even be configured to learn from what you selected in the past and make intelligent guesses about what you want in the future.

So far, then, we have restructured the TV and newspaper industries; what about education? The system will offer huge scope for interactive education and training. With the possibility of all

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your educational material being available in the home - the world's reference libraries, lectures on video, multimedia training resources - who would ever need to sit in a draughty and uncomfortable classroom or lecture hall again? In the real world, of course, schools are not going to close since, apart from anything else, the social aspects and legal implications of education are too important. But higher education might be revolutionised, particularly where it is vocational. With the trend in employment being away from the job for life and towards the concept of shorter-term contract work, the onus will fall more and more on the individual to acquire the necessary training - and interactive multimedia is in the right place at the right time.

It goes almost without saying, of course, that access will be available to the global Infobahn, as it has been called, including the Internet and any other information sources normally available with a phone line and modem. Also available will be games, including multi-user games whose scope will naturally be vastly greater than anything you've ever played over your modem before.

Further into the future, video conferencing and video telephony will be available, so with an STB there will be no need for a dedicated and expensive videophone. Communication with your home from elsewhere will also be possible; so if you've just touched down in the Bahamas and realise the central heating is still on, don't worry - you just phone your STB and ask it politely to switch it off. Or you may be sitting in your office at work, watching last Monday's Eastenders on your Risc PC, when the program is interrupted to tell you that someone is at your front door at home, and moreover you can see who it is via the video camera over the door. You could then speak directly to the caller via an audio link before returning to your programme.

Further still into the future, imagine being able to pull on a virtual reality headset and visit your relatives in Australia, stroll around their new home, share a drink with them, even enjoy the flight on the way there ... as I said at the beginning, the possibilities are truly mind-

boggling. And when you remember that most of today's computer applications would have seemed like science fiction in the early days of computing, what scope must there be in the future for interactive multimedia once our imagination has got to work?

#### TAKE YOUR PARTNERS

Sensibly, Acom has recognised that the stakes in such a venture are far too high for a small company, and it has therefore been busy wooing partners who have the necessary expertise to complement its own. Olivetti is heavily involved, perhaps seeing this as the first real chance to make serious money from its investment in Acom. ARM is a partner too, not surprisingly since the STB is based on ARM technology. The communications technology expertise is provided by Advanced Telecommunications Modules Ltd (ATML). For the initial system trial, which will take place later this year in Cambridge, Acom has enlisted Cambridge Cable (a subsidiary of Singapore Telecom) who will supply the service to a selected group of its customers, and Anglia Television who will provide program resources such as news, current affairs and educational material. Other partners include BNR (a subsidiary of the American giant Northern Telecom), Oracle and News International. Further trials will take place later in association with other major international telecoms companies.

#### LITTLE BOXES

The STB, as I mentioned just now, is based around an ARM chip - to be precise the same ARM 610 that controls the Risc PC. The family resemblance is further enhanced by the presence of the VIDC20 to provide the video output. The similarity stops here, however, as the STB sports an MPEG decoder operating at 1.5 Mbits/sec, 16-bit sound, a high-speed comms interface and controlling software that provides the kind of effects needed from a professional multimedia system, such as fades and dissolves. Optional extras will include an internal CD drive, serial and parallel ports (for modem, printer etc.), and provision for alternative input devices to replace the remote control handset, such as keyboards, mice, devices for disabled users etc.

