

# As you like it...

THE FUTURE OF SHOPPING WILL PUT YOU FIRMLY IN CONTROL AND PRODUCTS WILL BE MANUFACTURED TO YOUR INDIVIDUAL SPECIFICATIONS. SEAN McMANUS HITS THE VIRTUAL STORES TO FIND OUT MORE.

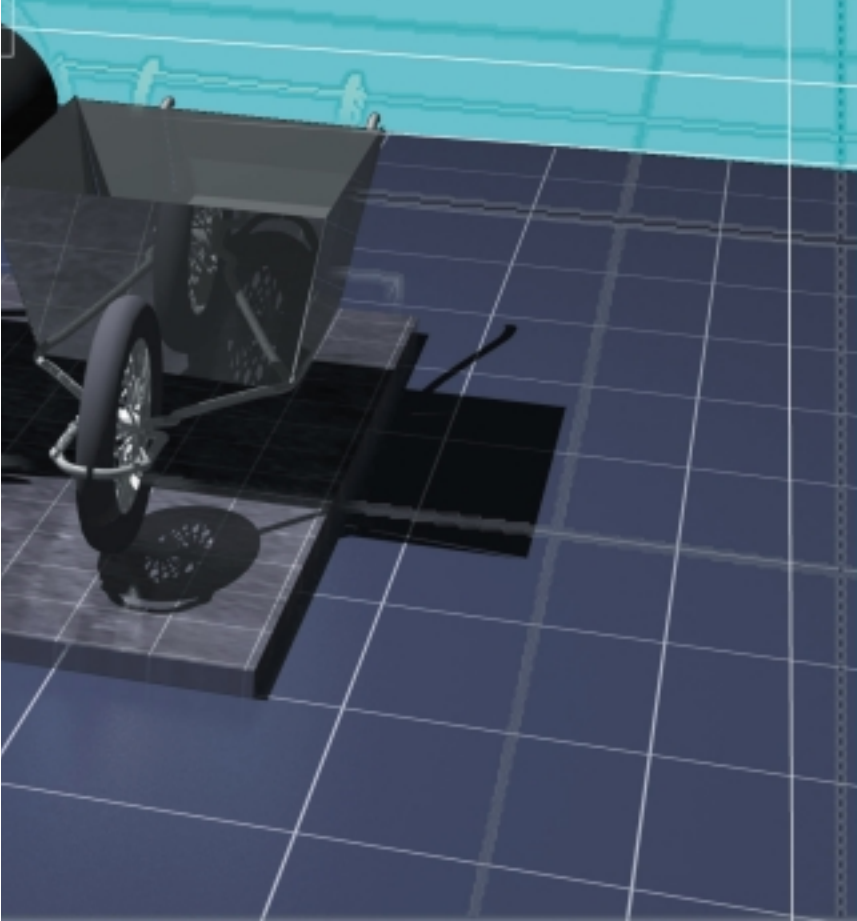
**H**AVE YOU EVER seen a pair of jeans in a shop and liked the style, but hated the colour? Or maybe you've bought a compilation CD and wished you could replace the dud tracks at the end with your own choices? Well, if you can identify with these scenarios, then you'll be pleased to hear that in the future you'll be able to get the jeans in that style in any colour you want, and replace the dud tracks on the CD with your personal favourites, thanks to the Internet. It's all down to a simple idea, summed up in two words: mass customisation.

For a long time mass customisation has been a marketer's dream: a fantasy that machines could be built to automatically tailor products to the customer's requirements. That technology has now arrived. Previously, the biggest barrier to this kind of customised production was the fact that there was no economical way to capture a customer's preferences and the specification they would want the product made to. But now that the Internet is allowing customers to dictate their specifications in a structured form – through a web browser – everything from books to houses can be customised online.

'Mass customisation means that the consumer can get only and exactly what they want, at a price they are willing to pay,' said Joe Pine, who together with Jim Gilmore, was one of the first to spot the emerging trend in their book *Markets of One*. 'When companies mass-customise their goods and services, consumers no longer have to sacrifice their ideal by buying mass-produced offerings designed for some average, and non-existent, customer,' added Gilmore.

'In some cases the actual product can be customised, such as with information or music, and immediately delivered over the Internet. In all cases, information and other representations

ILLUSTRATION DANIEL MACKIE



## Amnesty hits on an appealing idea

**H**uman rights organisation Amnesty International uses its website ([www.appealsww.com](http://www.appealsww.com)) to sell customised protest letters to members. Letters are compiled using randomly chosen snippets of sentences, which are stuck together to create a fresh letter with the same message each time. Facts about the

specific case and campaign details are blended in where appropriate and the result is sent to the Amnesty member by email as a rich text file.

'The probability of two letters coming out the same is virtually nil,' said Julian Hall, who wrote the software. 'When confronted with six cases in the magazine on which to write

letters, many Amnesty members feel overwhelmed,' he said. 'It gets very difficult to think of original things to say, especially after the second or third letter. The same stock phrases tend to come out time and again. When I developed this system, I found that the letters were better than those I had been writing myself.'

As well as varying the language, the computer-composed letters avoid repetition and the use of emotive language. The system has built a dictionary of 10,000 synonymous phrases which can be shared across different appeals. Phrases can be added and removed for particular campaigns.

about the product can be customised to determine which variation the consumer wants,' said Gilmore.

Many sites create the illusion of customisation, by simply profiling the user before suggesting products for purchase. For example, the gift advisor at Presentpicker.com simply selects mass-manufactured gifts, in

compilation CDs by choosing individual tracks from the entire catalogue of songs that is held by the site.

'It attracts gift purchasers, people who don't enjoy record stores and people who feel ripped off by filler tracks on [off-the-shelf] compilations,' said Cdiy managing director Denise Proctor.

Customers audition tracks on the website and put those they want into their playlist. When the credit card order is confirmed, the website tells the audio server to copy the individual tracks into a disc image. A blank CD-R is lifted into the burner, burned and then lifted to the printer for the customer's tracklisting and dedication to be printed onto the surface. Another server keeps track of the royalties owed to the artists for each sale of their recording. The only human intervention comes in packaging the CD.

'The benefit is complete personalisation,' said Proctor. 'The customer will be able to choose from a selection of inlay cards, and to choose a personal message to be printed onto the actual disc along with their unique tracklist. The customer gets to choose exactly which tracks they want, in the order they want.'

Labels, such as K-Tel, which have substantial archives of old hits are already exploiting similar technology, so customers who only like one song by, say, The Platters don't have to buy a whole CD of their tracks. The idea has already proved its worth. In December 1999, sales of Beastie Boys albums rose by 265 per cent at CDNow.com, during a promotion that allowed customers to compile their own double-CD of 40 tracks from 150 Beastie Boys songs.

A more sophisticated customisation interface is offered by iPrint.com, a website that sells customised stationery, mugs, T-shirts, mousepads and other similar items. The site takes a virtual design-studio approach, where the user can create their own customised items by selecting images either from the site's library or from their own local disk, inputting their own text messages, and using clickable buttons to align the text and images. Designs can then be



*Alwaysinstyle.com takes some of your personal details – such as eye and hair colour – and then suggests clothes in colours that will match*

response to a customer's description of the occasion and the interests of the person the gift is being bought for. In a similar vein, Alwaysinstyle.com invites visitors to describe their appearance (eye colour, hair colour) and personality, before advising which colours suit them best and then directing them towards mass-produced products that the site considers appropriate. Internet news services might appear to customise their content, but they usually only filter a vast stream of data based on its relevance.

Genuine customisation has been led by an emerging sector of the music industry, that brings audience-hungry bands together with enthusiasts looking for something new. Sites such as Cdiy.com, which promote new bands, allow visitors to create do-it-yourself



saved to the site and used to produce personalised items such as stationary.

'The company has taken a traditionally cumbersome, time-consuming and potentially costly process and made it an easy, fast and inexpensive one,' said iPrint.com's spokesperson Eric Atwood. The saved design can be sent straight for printing from the website, without the human intervention that often causes mistakes in traditional printing. Atwood claimed the site, which cost the company £625,000 to build, has an error rate of less than one per cent compared to the 10-15 per cent rates that traditional printers might encounter.

The idea of custom printing has been taken a step further by Sprout ([www.sproutinfo.com](http://www.sproutinfo.com)). The company has developed a print-on-demand system for books, that overcomes the hurdle of the minimum viable print run. Book retailer Borders has bought a 20 per cent stake in Sprout and is selling print-on-demand books from its website at [www.borders.com](http://www.borders.com), as well as through its chain of retail stores. The system costs about £25,000 to license and occupies 60 square feet of floor space.

When the Sprout system receives an order, one laser printer works on the black and white pages, while another prints the colour cover. An operator transfers the sections into a binder and the book is ready in about 15 minutes. Despite using standard laser printers, Borders.com spokesman Rich Fahle said that the graphics quality of the cover is only slightly lower than that of traditionally printed covers. 'Moving forward, the technology behind the book purchase will be invisible to the customer,' he said. 'They'll order a book and won't necessarily have any idea that it was printed on the spot.' On-demand books are now included alongside mass-printed books in Borders' latest catalogue.

Another benefit of Sprout is that it takes the guesswork out of the publishing industry. Publishers no longer have to estimate print runs, nor must shops guess how many sales they will make, but authors are paid royalties in the same way as with a conventional book. Borders' catalogue already includes thousands of on-demand titles, many of them previously deleted, and some of them exclusive paperback editions of hardback books. And this system has other

benefits: 'No book will ever go out of print using this technology,' Fahle said.

Although not yet being exploited by Borders.com, the technology can be used to personalise the content of a book, for example by dropping a child's name into the story and including photographs as is done at Kidsinprint.com.

Combined with automated creative writing technology similar to that developed by Amnesty International (see box on previous page); in future, customers could buy books that have been custom written for them. This is most likely to be workable in the children's market, where stories are basic, or in tutorials, where the material could be selected and compiled according to the reader's background and existing knowledge. It will be a long time before



computer-generated fiction books can compare with human-authored texts.

It's not just CDs and books that can be customised, though. Computers have been in on the game for quite some time now. Dell was one of the first to introduce mass customisation on the Internet, selling computers through its website in 1996. It now sells more than £18.75m

**Bored with barbie? Dolls bought on at Barbie.com can be customised – including different wigs, skin tones, eye colours and accessories**

## Music in the mix and jamming with the stars

**S**ongs by musicians including David Bowie and Thomas Dolby, can now be remixed online using a piece of software called Beatnik.

The recordings have been broken down into their constituent parts, so that the

listener can mix in and fade out the drums, bass, guitars and vocal tracks by clicking buttons on their screen. The Thomas Dolby interactive remix of *She Blinded me with Science* even allows the listener to save the remix and email it to a friend.

At the moment the technology is being used to help promote sales of the original CD at Barnes and Noble's ecommerce site ([www.barnesandnoble.com](http://www.barnesandnoble.com)) but the future might well see listeners having the choice to remix whole albums before

they buy. And with Rocketnetwork.com demonstrating how musicians can 'jam' on the Internet using MIDI instruments, it might even be possible for listeners to play alongside the stars on the CDs they buy.



worth of kit every day from the website. Users can log on and build a machine specification by selecting options in pull-down menus. 'There is lots of flexibility,' said Dell's global Internet spokesman Dave Dix. 'They really are made to order. You choose how much memory, how big a hard drive, what size monitor etc.' The customers have tended to be 'power users', he said. 'Ones who are experienced, savvy and know exactly what they want.'

Perhaps the easiest target for those selling customised items is fashion victims. The number of options available to fashion-conscious shoppers is increasing at an alarming rate. For example, watches can be customised at Idtown.com, giving the buyer the opportunity to choose a face design, case, strap and hands. This contrasts strongly with Swatch's marketing approach of creating many simultaneous limited editions, so that people rarely encounter others with the same style. Another site, Ic3d.com, is perhaps the only place in the world where you can buy fake giraffe-fur, flared jeans. All you need

and ones, you can instantaneously change a zero to a one, and vice versa.'

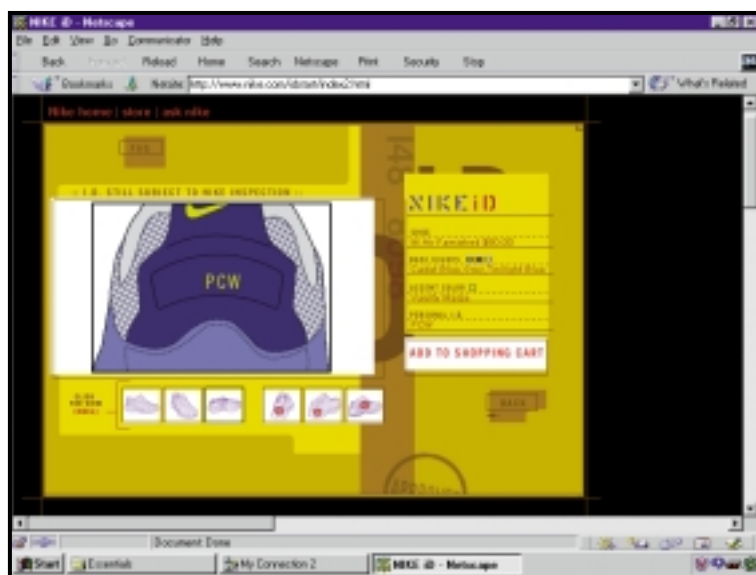
In the future, it might be possible to buy tailored software so that people can pick and mix the features they need from today's overbloated applications. One website, Hotbar.com, already offers visitors the chance to redesign the background they see at the top of their Internet Explorer browser behind the navigation buttons.

But the ultimate customisation technology may have its roots in 'solid-object printers'. These allow models to be compiled from layers of liquid wax squirted from a group of 352 moving nozzles crossing the printer. The wax is applied in 0.36mm deep layers and dries rapidly. Standard CAD packages are used to render a model, and the printer then creates a real life wax 'print out' of this. In the future, similar technology could be available in homes, and web interfaces could allow users to start with model templates, add to them, and then print them at home.

Already Ticketmaster.com is challenging accepted notions about the point of delivery in the US, by selling tickets that can be printed on the concertgoer's desktop printer. A bar code included in the ticket file is used to validate the tickets at the venue. Dolls can be customised at Barbie.com with different wigs, skin tones, eye colours and accessories. In future, it might be possible for children to print their own Barbies at home using a more advanced solid-object printer.

Now that mass customisation technology itself is becoming a commodity, the industry can only grow. Companies such as Gerber Scientific ([www.gerberscientific.com](http://www.gerberscientific.com)) sell the hardware and software used to tailor products, including spectacle lenses, clothes, signs and packaging. Also those companies that were first to market and had to develop their own technology are now licensing it to others. Cdiy, for example, now markets its technology to other companies selling personalised CDs.

As the number of customisation-savvy buyers rises with the growth of e-commerce, shopping in the future is likely to be more personalised. Even Ford, whose founder pioneered homogeneous production and offered customers 'any colour you like as long as it's black' is restructuring its company to deliver customised cars. 'Most every automobile company over the past six months has announced that they're working on mass customisation, so when it hits that industry - the paragon of mass production - you know it's on its way to becoming the predominant mode of production,' said Pine.



**PCW on the run: Nike's iD facility allows you to customise your trainers and stand out from the average jogger**

is the combination of a web browser and a strong dose of poor taste.

Nike.com has even launched its Nike iD facility to create limited edition trainers. Customers choose to customise one of two styles with different bases, material and logo colours. They can add an eight-letter personal ID that is stitched into the heel of the shoe. Each stage of the selection process updates the on-screen illustration, viewable from several angles. Nike has limited the range of available colours and hand-checks every ID to ensure that the shoes don't look ugly or contain offensive IDs, gang-related IDs or names such as 'Reebok'. The trainers, which normally cost around £50, are sold at a premium of £6.25 for the custom design and are delivered within three weeks (so far only within the US).

'Anything you can digitise you can customise,' Gilmore said. 'Once it enters the realm of zeroes

