

First it was the telephone, then it was radio and TV, then the internet. Now it's talking fridges, walking smart chips and stalking cyber predators. But where is all this information and communication technology really taking us? Special report by **Jane Charnley**.



Illustration: Nicky Taylor

# I've seen the future – and it's smart

THE Government may still be using the good old postal system to carry out the national census, but businesses are catching on to the value of gathering information at the speed of a hypertext.

According to the experts – know in the home as futurologists – it is only a matter of time before the total convergence of voice, vision and data technology takes place. Very soon, telephone, television and internet will all be accessible from the same window pane.

Once these major links are up and running, information will flow endlessly in every direction. And for businesses, the opportunities are apparently limitless.

Of course, the futurologists are already light years ahead. Speaking in London recently, IT's Goshawk Whitehead, listed an advanced concept machine, talked through four of the brave new world as it is seen through a window pane.

He talked dramatically of new with three intelligent chips, which he claims will be smaller than a penny and just how thin, can be used for all manner of purposes.

These would store vital information for use by paramedics or doctors in emergencies. Or when wired into a car, act as a vigilant pair of eyes that store information.

Whitehead described the chips: "Micro chips into cerebral receptors. Kinetically sensitive to heat, cold, pressure and vibration in his ear, says John Smith. You can't make his heart not beat, says 'Toby' John. 'Which motor did you go for first?'"

Whitehead says that in the near future, the message is that there is no shortage of them. "In the near future your home will



**Cool customer** "Your fridge will ring you up at work and tell you you're out of milk," says IT futurologist Graham Whitehead.

be more intelligent," said Whitehead, who takes the country explaining what silicon giant IT does in his research and development centre in Bury. "Consumer devices will have built in processors and talk to each other. Your fridge will ring you up at work and tell you you're out of milk."

Over-the-air, companies will use micro-chips to personalise their products. Whitehead says that in the near future, the message is that there is no shortage of them. "In the near future your home will

be more intelligent," says IT futurologist Graham Whitehead.

He predicts that the NHS will be saving millions within the next five years, after the state patients' medical information on the spot.

In fact, large-scale information gathering is well under way. The big retailers have amassed huge reserves of valuable data about their customers through the loyalty card scheme.

Supermarkets are ready to use data, such as how many bags of brown peas Mrs Smith bought last week, to target its marketing to her more accurately than blanket advertising.

Smart as it may seem, however, to use computers to boost profits, artificial intelligence agents are only as good as their human programmers. So we decide how to interpret the information.

A supermarket may decide to target Mrs Smith with the products she does not normally buy. If she were a vegetarian, she might not take too kindly to being bombarded with pictures of sizzling steak and pork sausage.

On the other hand, tracking the historic behaviour of a customer in order to predict what she will buy next is likely to prove unhelpful. After all, a lady is entitled to change her mind.

Recognising that artificial intelligence agents have to improve their skills before they can be entrusted with the weekly shop, it is a consumer who is really being asked to go to a better class of cyber.

Businesses on the internet have perhaps more reason than most to develop artificial intelligence agents to enhance their performance. It is their customers who they claim to be serving. In the internet shopping maze, it is a real life experience. The user is not a faceless, anonymous cyber-silhouette on earth.

A software company based in Huddersfield, Chokan – Japan for some – claims to be as near as secure in this regard with a product that interacts with website visitors to deliver an experience customised to a real shopping experience.

"We're not talking about the slickness of new page designers, but the slickness that doesn't mean so the salesman, but a fast, responsive website," said Chokan's sales and marketing manager, Andrew Eaves.

The software was designed by managing director, Gary Walton, after his program was well used to find suitable clothes for her 18-month-year-old son, the web.

Not only is it used to find suitable clothes for her 18-month-year-old son, the web, it is also used to find suitable clothes for her 18-month-year-old son, the web.

It is a "visual advertiser" set by the client who decides whether to use information collected during its session only or whether to blend it with previous sessions, explains Eaves.

Finally, children's clothing retailer, Mamas and Papas, will be one of the first companies to trial the system and another major street retailer is considering it.

While the perks are happily awaiting their internet children, customers are becoming more than a little nervous about the pervasiveness of personal details.

The privacy method used by companies to track internet use is called "cookies". It is a small, text-based file which is sent to the user's computer and stored on their hard drive.

When a user visits a website, the cookie is sent to the website and the website can then identify the user. The cookie is used to track the user's browsing history and to store information about the user's preferences.

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But according to the Institute for Communications Arbitration and Forensics, few people know this and remain vulnerable to the predators of the world wide web.

The worst case of the access is that you ID is used as a cover for more sinister activities, including pornography," said Greg Smith, ICAF's technical director.

"The average user, however, is the person, over use of data by companies to allow more personalised services for customers in the future."

Smith says part of the reason for the UK's lack of vigilance is because three years ago it was the UK that was the UK.

"The American people more than the English are paranoid about it: who are these people behind the cookies, they ask? Is it the Government using information for some purpose or is the information to be used for commercial purposes?"

"Then again, it could simply be for companies with a genuine reason – to keep the customer coming back by serving their needs."

He advises companies to let their customers' minds at rest by disclosing exactly what they intend to do with any data collected by cookies, especially if it is to be used on a third party.

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**LEGAL VIEW**

IN DISCUSSION

Will Arsenal score an own goal on case of trader who sold goods for 30 years?

**Low Courts**  
Pete Curtis, Solicitor at Curtis, Curtis & Leach

Like several other clubs, Arsenal now employ a variety of trial and control procedures to restrict the activities of their members of members.

The club has actually incorporated a number of "ethical merchandise" clauses into its membership agreement, which allows the club to use its name on any goods that are sold by its members.

Having been effectively blacklisted by Arsenal, the club has had to find a way to continue to sell its goods. The club has had to find a way to continue to sell its goods. The club has had to find a way to continue to sell its goods.

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