

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 link.

According to the experts - known in the business as futurologists - it is only a matter of time before the total convergence of vision, video and data technology takes place. Very soon, telehome, telebusiness 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, it offers opportunities and surprising limitations.

Of course, the futurologists are already light years ahead. Spending in Leeds received 875 Goshes Whitehead, told an advanced conference, talked through four of the brave new world set for the year 2010.

He talked dramatically of new ways with technologies away behind their eyes or, if they preferred, stretched into their jackets. Three intelligent chips, which his clients will be able to use for all manner of purposes.

These would store vital information for use by paramedics or doctors in emergencies. Or when wind dies a calm eye, act as a vigilant pair of eyes that store information.

Whitehead described the chips: "They will be used to create receipts, identify items and store credit receipts. It's like having a bank card on your wrist. You can use it to buy anything. You'll have a new chip. It will have a hole and you'll have a 'Hello John' which will do you just that."

Whitehead said he does not see a shortage of them. "In the near future your home will



Food courier: '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 sees the country equipping what eleven giant IT firms in the research and development centre in Brierley. "Consumer disciplines will have built up processes and talk up each other. Your fridge will ring you up at work and tell you you're out of milk."

Over-the-air, companies will use chips to download live services. "Hello John" which will do you just that." Whitehead says he does not see a shortage of them. "In the near future your home will

be more intelligent," says IT futurologist Graham Whitehead. One of his clients, Dr. Kevin Warwick, Professor of Cybernetics at Reading University, has experimented with one chip implants. The first managed little more than to open doors and turn lights on for him, but he is set to receive neuro-implants in six days.

Smart chips are embedded in some phone cards, advertising cards and credit cards. All these cards are smart chips. All these cards are smart chips. All these cards are smart chips.

Of course, many "smart" systems are already in use. One of his clients, Dr. Kevin Warwick, Professor of Cybernetics at Reading University, has experimented with one chip implants. The first managed little more than to open doors and turn lights on for him, but he is set to receive neuro-implants in six days.

He predicts that the NHS will be saving millions within the next five years, after the age-based use of these credit cards opens up. Large-scale information gathering will be used to target. The big retailers have amassed huge reserves of valuable data about their customers through the loyalty card schemes.

Supermarkets are ready to use data, such as how many bags of brown rice 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, who decide how to interpret the information.

A newspaper 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 steaks and pork sausage.

On the other hand, tracking the historic behaviour of a customer is used to predict what she will buy next in a grocery basket to a retailer like a chip of cyber.

Businesses on the internet have perhaps more reason than most to develop artificial intelligence. It's all about customer loyalty. It's all about customer loyalty. It's all about customer loyalty.

A software company based in Huddersfield, Chokun - Japanese for sixth sense - claims to be as near as secure in this quest with a product that interacts with website visitors to deliver an experience unique to a real shopping experience.

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

The software was designed by managing director, Gary Walton, after his program was used to find suitable clothes for her 16-month-year-old son.

"It's a 'just answer' service," said by the client who decides whether to use information collected during its session only or whether to blend it with previous sessions, explains Earls.

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 imminent delivery, customers are becoming more than a little nervous about the pervasiveness of personal details being built up on a computer to create their profile.

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

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

"The average event, however, is the penetration, over use of data by companies to allow more personalized services for customers in the future."

Smith says part of the reason for the UK's lack of vigilance is because there's less web crime in the UK than in the US.

"The American people more than the English are paranoid about it; who are these people behind the cookies, they ask?"

It's the Government using information for company purposes 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 list their customers' needs or to be declining quietly what they said to do with any data collected by cookies, especially if it is to be used on a third party.

For companies showcasing their customers' interests are more likely to activate a prominent little brother than get up to sneak dinner's Big Brother-type activities.

And according to the statistics, a large number of companies have not even begun to explore the information that could be at their fingertips.

Party to 60 per cent of companies do not know what to do with the information they collect. It's not clear if it is correctly under the rules of the Data Protection Act.

But if Graham Whitehead's predictions about talking fridges and walking smart chips are right, the amount of information that will be collected will be staggering.

## LEGAL VIEW



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

**Law Courts**  
Peter Curtis Biddle at Leeds

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

It's not that you've become football club as a "trial" trade. It's not that you've become football club as a "trial" trade. It's not that you've become football club as a "trial" trade.

As a result of the trial and control programmes, Arsenal have effectively closed their membership to a large number of potential members, and a large proportion of those who are not members of the club are not members of the club.

The club has also clearly marked its membership. It's not that you've become football club as a "trial" trade. It's not that you've become football club as a "trial" trade. It's not that you've become football club as a "trial" trade.

goods were products of Arsenal FC. It's not that you've become football club as a "trial" trade. It's not that you've become football club as a "trial" trade. It's not that you've become football club as a "trial" trade.

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that Mr Reed had infringed its registered trade mark. Under the Trade Marks Act 1994, a person is deemed to be selling a registered trade mark if he sells it as a trademark.

It's not that you've become football club as a "trial" trade. It's not that you've become football club as a "trial" trade. It's not that you've become football club as a "trial" trade.

However, Justice Laddie found that a warning sign was not a trademark. It's not that you've become football club as a "trial" trade. It's not that you've become football club as a "trial" trade. It's not that you've become football club as a "trial" trade.

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