

● YOU know the kind of day. You set time aside to finish a report only to be constantly interrupted by crises in the office, whining colleagues, calls from family, gossip at the coffee machine and saucy emails. You end up writing the thing at home, after the kids are asleep.

For more and more people, every day feels like this – one long string of interruptions with only the gaps in between to get anything done. However bad you think it is it's probably worse. When researchers at the University of California, Irvine set out to quantify the problem, they figured people were probably overreacting, that we probably got in a good quarter-hour or so between disruptions. But after shadowing a dozen information workers for three days, they found that on average, they got just three sustained minutes of work in before being diverted. "I was shocked," says Gloria Mark, who ran the study.

It wasn't always like this. In the good old days, if somebody didn't have the chutzpah to walk over and disturb you in person, they pretty much had to rely on the telephone or the post. Now your friends and colleagues think nothing of emailing, texting, leaving voicemail and trying your mobile, and if you don't respond instantaneously to any of these, they pop by to see what's wrong. Out of touch is out of the question.

This "always on" culture is taking its toll. A survey by US information technology research firm Basex earlier this year found that interruptions take up over two hours of the working day. Even work-related interruptions disrupt your flow, and that, they estimated, costs the US economy \$588 billion a year – 6.5 times as much as the estimated cost of back pain, according to a 2004 study at Duke University in Durham, North Carolina. Last year, Glenn Wilson at the Institute of Psychiatry in London found that being bombarded with emails and phone calls has a greater effect on IQ than smoking marijuana (*New Scientist*, 30 April 2005, p 6).

Edward Hallowell, a psychiatrist based in Sudbury, Massachusetts, has seen the signs. He treats patients with attention deficit

Got a minute?

Office life can sometimes seem like a constant stream of calls, alerts and interruptions. Can technology save the working day, asks **Alison Motluk**

disorder, and says that over the last few years he has seen an increase in people claiming to have "developed" the disorder in adulthood. Patients complain that they are distracted, forgetful, disorganised and impulsive – and they can't get anything done. But for many of them the symptoms mysteriously disappear when they are on holiday.

The problem, he soon realised, was their work environment, and their lack of control over their own interruptions. "Technology used properly is a blessing, but when used wrong, it's downright destructive," says

Hallowell, who has just written a book on the subject, *CrazyBusy*.

So how do we improve the situation? As anyone working in an office knows, interruptions are often necessary: we need to discuss projects with our colleagues, take important phone calls and so on, and we need breaks. But now that there are more ways to be interrupted, it is even more difficult to keep the day under our control.

Technology may be at the root of all this, but some researchers believe it's the solution too. Put your ear to the ground and you'll hear them talking whimsically of computers that are more "understanding" and "empathetic". The systems of the future, they say, will take the time to really get to know us, to understand what's important to us, who our friends and associates are, so that it can decide whether this call should be put through or that email be given priority.

They'll recognise when we can handle being disturbed and when we want to be left alone. They will apologise when they get it wrong. Our lives will cease to be a cacophony of beeps, buzzes and rings. Instead our interruptions will be perfectly orchestrated thanks to our perfectly intuitive, round-the-clock techno-assistants. Or that's the idea.

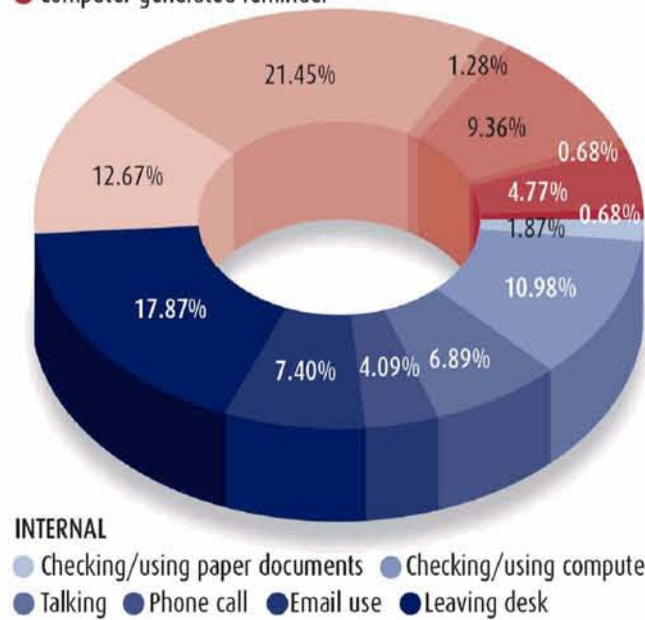
The first job for our cyber-secretaries will be to deliver us from temptation. After all, we do want most of our interruptions, we just don't want them all now, and as any compulsive email checker knows, we aren't always that good at deciding what is urgent

DIVIDED ATTENTION

Average number and types of interruptions per day in a group of IT workers

EXTERNAL

- New email notification
- Person arrives
- Checking for business updates
- Phone rings
- Voice message light
- Call from person at another desk
- Computer generated reminder



SOURCE: VICTOR M. GONZALEZ AND GLORIA MARK



and what can wait. Mark's research backed this up: about half of all interruptions are self-generated (see Graphic).

Virtual manners

Several years ago Microsoft set about designing a system called "Priorities" that could analyse each interruption for salience and urgency on your behalf. It works much like the way a doctor uses a "triage" system to decide how urgently a patient needs care. After you train it up, Priorities examines each incoming email or call to see who it is from,

what your relationship to the sender is, whether you share any projects, and so on. It scans for evidence of urgency – whether the email mentions a date, a time, or an impending meeting. It also looks for keywords that you have indicated are relevant to you, then it assigns a score.

"It works extremely well at discriminating urgent from non-urgent," says Eric Horvitz, a senior researcher at Microsoft in Redmond, Washington. He and others use it not only to prioritise messages in the office, but also to decide which ones are so important they need to be sent via his cellphone no matter where

he is. It's better than a live secretary, he says. "It knows so much about me."

It only occurred to me after a few minutes of banter with Horvitz that I too had come under the cold scrutiny of Priorities, and had been scored. As the interrupter, I was curious to know how I had fared. My initial email had received just 65 out of 100, with a 20 per cent chance of being junk, Horvitz told me – "not bad", he said, for someone who didn't work at Microsoft and with whom he had never exchanged emails before. To console me, Horvitz confided that even Bill Gates gets low scores – not because his emails aren't ▶

