

How good software makes us stupid

**By Dave Lee**

**(BBC NEWS, technology)**

Imagine for a moment that you have thumbed a ride in one of London's iconic black cabs. "Where to, guv?" he asks, in typical cockney-twang. You tell him. "No problem - let me just enter that into my sat-nav..." It sounds unnatural, almost deceitful, that any self-respecting London cabbie would ever utter those words. After all, a taxi driver's ability to know every twist and turn of the capital's streets is the stuff of legend. It's not optional - unless drivers pass a formidable test - called "The Knowledge" - they are not allowed to head out onto the roads in one of the iconic vehicles. But with satellite-navigation technology now well established as a cheap, reliable way of being shown the way ahead, one expert has warned that we could actually lose the intellectual capacity to remember vast amounts of information - such as tricky routes through the capital city. "The particular part of our brain that stores mental images of space is actually quite enlarged in London cab drivers," explained Nicholas Carr, author of *The Shallows: What the Internet is doing to Our Brains*. "The longer you've been a cab driver the larger that part of your brain is." Mr Carr explained that one study revealed concerns over technology use for cabbies. "Almost certainly we'll see a diminishment, or even eradication, of that special quality of their brains." It could be argued that if a sat-nav can save months of studying for The Knowledge, while, in theory at least, making travelling around easier, then that can only be a good thing. Not so, argues Mr Carr. Technology, particularly the web, has been found to have lasting effects on our brains, altering our ability to carry out certain tasks. "The most interesting [study] had people who hadn't had experience with the web begin to use Google, for just an hour a day, and begin searching and surfing." The results showed how even just a small amount of use triggered varying patterns of brain activity. "On the one hand, a lot of their decision-making parts of their brain were activated which means it can help keep a mind sharp, for instance, as we get older. "But it also seemed to indicate the kind of patterns of activity that would make it hard for you to concentrate. If you're always solving problems and making decisions you can't have the calm mind you get when you read a book." The key to making us concentrate, Mr Carr suggests, is perhaps to make tasks difficult - a theory which flies in the face of software designers the world over who constantly strive to make their programs easier to use than the competition. Google is the prime culprit, Mr Carr says." In many ways I admire Google, but I think they have a narrow view of the way we should be using our minds. "They have this very much of an industrial view that everything's about how efficiently you can find that particular bit of information you need - and then move on to the next. "He argues that this even applies to projects like Google Books - designed to bring literacy to a bigger audience, and to make the world's knowledge more accessible. "They're scanning these books, I think, with a view that will not take in the whole books, but they'll become more content for its search engine. "What it's purveying is this view of all information being delivered as snippets. When you go to a Google Books page, you're not engaged in a long narrative in the book." The article described a simple experiment where a puzzle needed to be solved using a computer program. One half of participants were given a 'good' program - it gave hints, was intuitive and generally helped the user to their goal. The other half took on the same puzzle, but with software which offered little to make the task easier. "The people who had the weakest software, who had to struggle with the problem, learned much more than the people with the most helpful software," Mr Carr explained. "Months later - the people who had the unhelpful software actually could remember how to do the puzzle, and the people with the helpful software couldn't. "Mr Carr says that this simple experiment could suggest that as computer software becomes easier to use,

making complicated tasks easier, we risk losing the ability to properly learn something - in effect "short-circuiting" the brain. "When you think about how we're coming to depend on software for all sorts of intellectual chores, for finding information, for socialising - you need to start worrying that it's not giving us, as individuals, enough room to act for ourselves."

Formidable - (adjective) inspiring fear or respect through being impressively large, powerful, intense or capable

Diminishment - to make less or cause to appear less, to lessen the authority, dignity

Eradication - To tear up by the roots