Reinventing the user interface

Christy Kulasingam Looks at the role of the user interface in consumer technology, now and in the future

Over half of all consumer electronic devices returned to retailers are not broken — they have just confounded their owners with their complexity.

A survey found that the tolerance level of most consumers struggling to make a new device work is limited to just 20 minutes of effort, after which they tend to give up, conclude that the product is faulty and return it to the store. A product that is difficult to use may have as little value as a broken one, regardless of its underlying technical brilliance.

The falling cost of processors may be a key culprit, encouraging manufacturers to include increasing functionality in their products. The logic is that if the marginal cost of an extra feature is minimal or even zero, then it should be included, regardless of whether it is desirable or even practical for consumers.

Yet there appears to be an implicit cost in terms of the ultimate usability of the device. Even the humble mouse mat, which is typically inert, is now available as a version that incorporates a radio, headset connection, alarm clock and calculator. As a result, this particular mat requires a user manual to accompany each shipment.

As technology becomes increasingly sophisticated, we may see companies that manage to minimise product complexity achieve greater success than competitors offering superior, but relatively inaccessible, technology.

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A growing number of innovations may increasingly be used to make any technology-based device, from a watch to a car, simpler to operate. An emerging technology that could be significant is haptics, which uses touch for both feedback and control. In a car, for example, haptics could be used to warn the driver, via a vibrating alert, that their vehicle is straying from its lane.

Another emerging technology is the accelerometer, a form of motion sensor, which is likely to be popularised initially within controllers for video games. This technology may also be useful for e-books, allowing the turn of a page with a light flick of the wrist. It could also be appropriate for field-force applications, allowing engineers to scroll left, up, right and down in a digital map, with just a tilt of the device. Accelerometers in mobile phones could play a major part in making devices almost push button-free, particularly when coupled with speech recognition technology.

Indeed, speech recognition could become more widespread as a natural means of controlling products and services. While the automobile is likely to be the most common environment for speech recognition, personal computers, mobile phones and even television sets may also make increasing use of it. Additionally, touchless devices that respond to gestures rather than contact may also become a reality.

Christy Kulasingam is a director of the technology, media and telecommunications practice at Deloitte