Ensuring ethical insurance

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At the recent Computer Ethics Philosophical Enquiry, Oliver Siemoneit presented a paper *Ethical Issues of Pervasive Computing in the Insurance Industry.* This edition of ETHIcol discusses his presentation.

Advances in nanotechnology, microelectronics, and communication technology are characterised by the miniaturisation of ICT components which are cheap to produce and can be embedded in everyday objects. These embedded ICT systems are locally and globally interconnected using wireless technology. They collect data about their environment and adapt their behaviour according to that data as well as transmit tat data onwards. The claim for this pervasive computing is that clothes, cars, building and even human bodies, for example, can be invisibly equipped with embedded ICT systems which collect, receive, process, save and communicate data, which in turn will ease our life and open up new opportunities for us.

It appears insurance companies have started to use pervasive computing in order to offer new products to their customers. This is based on two approaches. By using pervasive computing applications real-time risk-relevant data can be collected which enables insurance companies to calculate more accurate insurance premiums based upon the actual size of the risk and the probability of it occurring. Early warning and detection systems can be embedded which can prevent damage or reduce the amount of the loss.

For example, some motor insurance companies offer vehicle trackers which collect risk-relevant data such as driver details, trip duration, break times, driving characteristics, speed, vehicle location and road conditions. This data is then used by the insurance company to build a profile of the vehicle use, estimating the likely risks which leads to raised or lowered premiums. In and attempt to make such pervasive computing applications more acceptable, they are often liked to additional services such as emergency location of vehicles and traffic congestion management.

It is not just inanimate objects that can be monitored. For example, sensors in sports shoes could be used by a partner company to devise and control training programmes. The collected data could be shared with the health insurance company where premiums could be adjusted to reflect the efforts of a client to stay healthy. The same sensors could be used to alert emergency service of dangerous values of life critical parameters.

It is the loss of privacy that seems to be one of the main ethical problems with this type of ICT application. In the process of collecting risk-relevant data there is the by-product

of establishing a detailed profile of an individual's activities, preferences and habits. Such profiles are very sensitive personal data sets. Those wishing to be insured may well underestimate the loss of privacy involved and indeed may be ignorant of this all together. The concept of informed consent in such circumstances appears to be been given insufficient consideration. Ironically the drive to manage risk by the insurance company creates a new risk to the insured. There is a clear tension between privacy and financial goals.

There is a second ethical issue that needs to be considered. The profiling of individuals by managed insurance companies has the potential to enable cost savings, but may enable discriminatory or exclusionary effects at the same time. This can run counter to the ethical principle of nonmaleficence for some, even while promoting beneficence for others. Indeed some individuals, through no fault of their own, may find themselves uninsurable with the use of pervasive computing to collect risk-relevant data whereas previously the cost was spread widely across the whole insured population. There seems to be a difference between these individuals and those who have consciously caused themselves to be a greater risk to insure.

A suggested way of addressing such issues is the manner in which data is collected using pervasive computing. There could be a reduction in the granularity and frequency of data collected. For example, in vehicle tracking the data could be aggregated over larger time intervals providing some measure of trends which might offer reductions in premiums whilst ensuring greater privacy. Another idea would be to restrict the sharing of data until after an event had occurred. This would provide accurate data to assess the cause of the event. Privacy would be maintained whilst the insured individual would know that permanent monitoring was taking place. What is clear from these suggestions is that there are ways in which pervasive computing could be used more sensitively in a way which balances the demands of all.

This application of ICT is a far cry from the early days of data processing where the technology itself provided the constraint on the desire to collect, store and process every conceivable piece of data that might be useful. This technological constraint has gone. We must now look to our moral judgement to use technologies such as pervasive computing ethically. ICT professionals should share the burden with business professionals in defining acceptable use and establishing clear constraints. They must ensure that the subjects, for example, of insurance risk profiling, fully understand the terms and conditions they are agreeing to.

Please send your views on ethical and social responsibility issues and cases of ethical dilemmas to:

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