

ICT R&T project 2007 “Consumer requirements for RFID standardisation”

Executive summary of main findings

Background

The purpose of this ANEC Information Society Working Group research project was to explore the potential of standardisation to overcome threats and to strengthen the opportunities of Radio Frequency Identification (RFID) for consumers.

RFID technology allows readers to capture information from devices called ‘tags’ that are placed on objects, animals, people or documents. RFID systems have the ability to identify objects without making contact. There are two kinds of tagging: ‘passive’ or ‘active.’ Passive tags require high-powered readers to both charge the capacitor to power the tag and to pick up its signal and read the information. Passive tags usually have an unlimited lifespan and can be extremely small. Active tags have their own independent power supply usually in the form of a battery that has a limited lifespan. These active tags can store more information than passive tags and that information can be rewritten. Active tags are normally used where a longer read range is needed.

RFID technology facilitates the information flow and its contact-less use can accommodate consumers that are confronted with accessibility and usability problems with the man-machine-interface in other applications. But any technology that makes it possible to link the physical world with private data that can reveal information about who we are, where we live, how we spend our money and where we move around is bound to raise legitimate concerns about privacy and security.

Methodology

The study, which run from April to December 2007 and was carried out by Intertek Research and Performance Testing, UK, analysed different RFID applications which are considered as priority from the consumer point of view such as electronic tags (e-tags) to replace code-bars on products, e-tags for

transport tickets and counterfeiting and traceability measures (food chain, drugs packaging). A review was also done of the work done by different consumer organisations.

It further examined the threats and benefits of RFID applications to consumers' privacy, security and health and described the formal and informal standards (and guidelines) for RFID that exist at European and International level.

Main Findings

While consumer awareness of RFID technology is relatively low, the use of RFID tags is a fast growing application/market and the applications are diverse. The research showed that the majority of consumers, in all the countries, knew very little about RFID.

When looking specifically at the different European countries, the study found that many of the concerns surrounding RFID were similar in all the countries. The main concerns of consumers included:

- Privacy
- Security
- Transparency
- Sustainability
- Interoperability.

It was seen as essential for the RFID systems to be consumer friendly and for the consumer to have the control. The 'opt-in' method was greatly favoured.

Privacy was the most dominant concern brought to light during the research. The threat to privacy is a major concern, for the public, companies and Governments alike. The threats to privacy include:

- people tracking and behaviour monitoring
- the aggregation of personal information
- unauthorised reading
- function creep
- sharing data with third parties
- covert use

Another relevant issue was security. When dealing with this issue, it is necessary to look at the assessment of application-specific guidelines and auditing of system design.

The study also highlighted that a consensus has emerged on the fact that the current European personal data protection legislation enables a proper treatment of privacy aspects related to RFID. However, from the consumers' perspective, the debate over the precise definition of 'personal data' and how "informed consent" should be implemented is still open. And just as importantly, there should also be a focus on enforcement.

Conclusions

According to the study, it is therefore important that there be protection through the law and technical solutions. For example, there should be application-specific guidelines and it should be mandatory that technical guidelines will contain technical advice on how to implement a system in a functional, secure and economic way.

However, given the speed and scale of RFID application deployment, the lack of legal certainty on the application of personal data protection legislation is alarming. It may be that robust standards are needed to make RFID deployment both secure and compatible with this legislation, but a first step is ensuring that the law is applied to RFID systems in a way that best defends the consumer interest.