

Spychips

By Katherine Albrecht and Liz McIntyre
Nashville, TN: Nelson Current, 2005, ISBN 1-5955-5020-8
(Price \$24.95), pp. 270.

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Journal of High Technology Law, Suffolk University Law School

WARNING: This review may reveal alarming facts that will shock and outrage you. Privacy law is a topic whose importance varies within the population. To some it is extremely important and they see a wide range of issues in today's society while others have a more carefree approach and do little to protect their private information. This review covers the book *Spychips*, by Katherine Albrecht and Liz McIntyre, and will provide an overview of the information provided and an analysis on of the validity of the author's conclusions.

Katherine Albrecht is the founder and director of Consumers Against Supermarket Privacy Invasion and Numbering (CASPIAN), which is an organization comprised of ten thousand members in all fifty states that has been confronting consumer privacy issues since 1999. Liz McIntyre is the organization's communications director and, like Mrs. Albrecht, is also a suburban mom concerned about the future her children stand to inherit if corporate America's technology is allowed to progress unchecked and unmonitored.

The title of the book, *Spychips*, is a term that the authors have given to a technology that, while not entirely new, has seen an explosion in research in recent years: Radio Frequency Identification (RFID). RFID technology involves using very small radio frequency transmitters that can be attached to virtually any object to track the movement and identity of that object. These radio transmitters, or spychips as the authors have dubbed them, have gotten extremely sophisticated in recent years and the future

Spychips

promises to show even more innovation. The spychips of today are small enough to be placed into credit cards, a pack of razors, even the heels of your shoe, and in the future they could be the size of a speck of dust capable of being placed anywhere.

The other component of the RFID technology scheme involves radio frequency receivers called readers that can identify the presence of a spychip and read the data that it is transmitting. Currently the range of the most common RFID schemes involve relatively short distances, between five to thirty feet, but in the future advanced research spychips could be tracked by satellite all over the planet. The spychip and reader can operate in either an active or passive design. Passive designs involve a spychip that has no power source of its own. The reader transmits radio waves which the spychip receives and uses to power itself and transmit its data back to the reader. The benefit of this design is that the spychips themselves are difficult to detect unless being powered by the reader and since there is no power source they can be extraordinarily small. Active designs comprise of a spychip that is self-powered and thus constantly transmitting its signal. The benefit of the active design is increased reading range, while the downside is a large increase in size and cost.

The spychip is essentially a replacement for the traditional Universal Product Code (UPC) barcodes currently used to identify products, but with significant differences. The modern barcode identifies products using a numeric UPC which relates to a particular type of product, such as a 12 oz. can of Coca-Cola. Every can of Coca-Cola has the same UPC code since it only identifies what the product is and does not identify each individual member of that group.

Spychips

The RFID equivalent to the UPC is known as the Electronic Product Code (EPC). The EPC is also numeric and identifies the type of product (12oz can of Coca-Cola), but it also contains a unique number for each specific product- a unique number for every product that would ever be made. The EPC is a number large enough to cover 80 thousand trillion trillion objects! The EPC was developed by the MIT Auto-ID center which is an RFID research center sponsored by large corporations such as Wal-Mart, International Paper, Home Depot, Intel, Pepsi, Coca-Cola, Target, Tesco, Phillip Morris, Unilever, Kodak, and UPS. These corporations are pouring significant amounts of research and development money into this technology.

The potential uses for this RFID technology and its impact on our privacy are where readers will have differing opinions. The beneficial uses of the technology have to do with convenience and marketing intelligence. For example, store shelves will be able to update themselves when they need to be restocked, and your refrigerator can automatically create a shopping list based on its contents. At the supermarket, it may be possible for consumers to simply pass their carts along side a reader and the total will instantly be calculated and paid from your bank account. Readers may be familiar with a current television commercial from IBM where a tractor-trailer is stopped in the desert and a woman from the “IBM help desk” tells them that their lost. When the drivers ask how she knows that her response is “the packages told us”- that is exactly the scenario the businesses want to see in reality and consumer advocates like the authors are fighting to prevent.

Much of this technology is already in the process of making its way into the marketplace. Major corporations like Gillette and Wal-Mart have been using RFID tags

Spychips

in their warehouses to help track inventory. Mobil's gas SpeedPass system, which lets customers pay for their gas by simply waving a keychain-mounted card in front of the gas pump, is a perfect example of RFID or "spychip" technology. The card attached to your keychain contains an RFID tag and there is a reader installed into the gas pump.

While the authors mention the benefits of RFID technology, the main focus of the book is to expose the potential dangers that it poses. The RFID transmitters are becoming so small that soon they could even be sewn into your underwear. With a unique number attached to each product, including products worn by people, companies and the government would literally be able to track you wherever you want. Stores will know exactly what products you took off the shelf and whether you put them in your cart. The most troubling idea the authors discuss is the potential for customer-specific pricing. Companies could potentially identify who their profitable shoppers are and give those customers beneficial pricing designed to foster loyalty, while bumping up the price for 'bargain hunters' to discourage them from shopping there.

The authors also include information taken from patent applications filed by corporations to show how they plan to use RFID technology. For example, IBM filed a patent titled "IDENTIFICATION AND TRACKING OF PERSONS USING RFID-TAGGED ITEMS." The patent demonstrates how RFID tags attached to merchandise could be read at the cash register to a store during a sale and then used to identify that exact customer when they entered the store at a later time wearing the same RFID tagged merchandise.

This book is clearly designed to present RFID technology as an enormous threat to our personal privacy and something that we cannot trust corporate America or the

Spychips

federal government to employ responsibly. The book is written with a style that expects the reader to be shocked and outraged by the facts surrounding RFID, including many phrases similar to the first sentence of this review¹. The problem this reviewer had with the book was that many of the facts just were not very shocking or outrageous. Radio frequency technology is not a new concept, nor is it very hard to understand, so many readers will already be familiar it and may find the whole “spychip” terminology lacking the mystery or aura it was designed to create.

The authors style often fails to connect the repeated warnings that the reader won't like what they are about to hear with actual substance that is truly disturbing. As mentioned in the introduction, the success of this book has a great deal to do with the perspective and pre-disposition of the reader. This reader felt that there are many benefits to RFID technology and while the potential for abuse exists, overall it is a close call whether this is a positive or negative societal innovation. For this reason, the authors' over-the-top alarmist tone was very off-putting to this reader.

In conclusion, *Spychips* offers extensive information on a topic that is becoming more relevant each day. RFID has the potential to have a significant impact on our lives and the authors do a very good job of explaining how it works, and what it may be used for- both good and bad. While many readers may not share the negative tone of the authors, it could be considered a mere annoyance in an otherwise very informative book.

¹ The authors make statements throughout the book that the reader is going to be shocked and outraged by what they are about to read. A reader who believes in the benefits of RFID technology, or even one that is neutral, may find this doomsayer tone irritating.