Using RFID to Transform Essex Libraries

Martin Palmer

In the beginning . . .

Radio frequency identification (RFID) has, after a rather hesitant beginning, begun to take off fairly rapidly in libraries around the world. With fewer than 50 sites live in late 2001, estimates suggest that this had risen to around 500 libraries (with over 120 million items tagged) by October 2005[1].

Essex (UK) County Council's public library system has been part of this expansion, having first become interested in using RFID some time ago – around 1998 – primarily as a way of improving customer service, but also as a potential solution to a very specific local problem. This related to the by-pass radio frequency (RF) security system in use at Colchester library (the authority's second largest site, with over 250,000 items in stock and loans of over 1 million a year).

Owing to the introduction of a protocol on frequencies for retail outlets and libraries which post-dated the installation at Colchester in 1981, the library (like many others) found itself with a security system tuned to the retail rather than library frequency. Consequently, many customer care problems arose as Colchester's library books set off alarms in major retail outlets around the world.

RFID seemed to offer the best way of resolving this problem in terms of added value: it offered not just a solution to the security question, but also the possibility of self service and stock management facilities not available from more traditional solutions. So, after a couple of false starts in terms of funding availability, a tender was placed for the supply of an RFID system for Colchester in 2002.

The responses received reflected the still comparatively embryonic nature of the library RFID market at the time, and came from a mix of library security system companies, RFID specialists, and system integrators. However, none of the systems offered quite what the project team was looking for.

Even at this early stage, the team were clear that they wanted a system that made use of industry-standard tags, rather than proprietary versions tweaked to perform in libraries only. They also wanted to provide full self service, including self-return and renewals as well as self-issue. Units had to be able to identify requested items, and to enable customers to separate them from the other items they were returning, as well as more basic processes such as providing a receipt for both check-ins and check-outs. Receipts also had to display all the items currently on loan to that borrower, and not simply those borrowed in the current transaction.

On that basis, a preferred supplier – Intellident Ltd[2], a systems integrator located in Manchester – was selected to work in partnership to develop a system that met Essex requirements. Using an industry-standard 13.56Mhz tag – the Philips I-Code – containing only a unique identifier and a security switch, a self-service system that worked with the Essex Library management system (GEAC PLUS) via the SIP2 protocol was produced over a 12 month period.

Into action . . .

Having completed both the development and testing of the new system as well as the tagging of all quarter of a million items of the library's stock, Colchester went live with the new RFID self service system in September 2003.

It was an immediate success with the public, and even though the system did not include a facility for payment (audiovisual services, for example, are charged for in Essex, as in most UK public libraries), its ease of use enabled self-service to account for around 50 percent of total transactions. This was not only a considerable improvement on figures reported for most traditional self-issue units, but also had the benefit of dealing with the check-in process as well.

As a result of this, three further Essex libraries went live with RFID over the next couple of years, while Intellident also developed new features to help make the system even more user-friendly.

In each of the three further libraries, levels of use of the new system met or exceeded those at Colchester, and so in most cases also made it possible to extend opening hours without the need for more staff.

These were clearly benefits that would be welcome across the county.

The rollout . . .

A business case was therefore developed to extend RFID to a further 31 libraries in liaison with the county's strategic partner for ICT services, BT[3], based on the experience from the first four sites (Essex has 73 libraries in total). Using the "Invest to improve" principle, it showed how RFID would enable the service in Essex to be transformed by using the technology to improve customer service and re-deploy existing resources.

To enable this transformation to happen, the introduction of the new system was linked to a major programme of workforce and audience development, incorporating a fundamental re-branding of the service, and a re-aligning of staff roles.

Assisted by training packages including the FISH! techniques made famous by the Pike Place Fish Market in Seattle[4], advice from John Stanley Associates[5] on retail techniques in libraries, and Frontline[6] (a reader development-based online course in

customer service provided by Opening the Book), library staff now act as floorwalkers and assist customers directly, freed from the restrictions of carrying out routine procedures behind a counter.

At the same time, a branded approach to the library entrance gives each RFID site a similar, uncluttered feel designed to welcome and relax customers. ''Express zones'' located close by the self service units provide rapidly-changing selections of books and DVDs that ''you don't have to think twice about borrowing'' for those in a hurry.

The rollout to date . . .

At the time of writing, all is going according to plan – having started the rollout in January 2006 and following a programme of two or three libraries going live each month, Essex currently (May 2006) has 14 live RFID sites and will have 35 in total by March 2007.

Take-up of self service in these new libraries has again been high – at least the level achieved in the earlier ones, and in some cases higher still.

In addition to tagging all existing stock in these libraries, all new material is being fitted with tags at time of purchase, so that Essex will have around two million tagged items by the end of this project.

Meanwhile, Intellident are continuing to develop more features, including a coin-operated payment facility which Essex hoped to introduce from September 2006, and a revised handheld device for stock management work, which is lighter and more powerful than previous versions.

RFID and privacy . . .

Although RFID in libraries arouses a great deal of discussion about privacy in some parts of the world, Essex has yet to receive any comments of this type from its customers. This may simply be because the topic seems to be much less of an issue in the UK. Nevertheless, it was taken very seriously from the outset, as Essex was careful to ensure that all its responsibilities under the Data Protection Act were completely fulfilled by the system-tags contain no information other than a unique identifier, which (just like a barcode) is meaningless without access to the library management system. Conversely, some Essex customers have commented that they welcome the additional privacy offered by self service, which enables them to borrow items on sensitive topics without being overseen by library staff.

What next?

Completion of the rollout in March 2007 will mean that nearly half of Essex libraries will have RFID self service – and the transformation that goes with it – in place. Assuming that all of the benefits claimed in the business case can be shown to have been met, the service will then take the opportunity to look at how these benefits can be extended to remaining smaller libraries.

Alongside the possible extension of self service, however, there are also other aspects of the technology to explore. In particular, the potential that RFID offers for radically different approaches to stock management seems barely to have had its surface scratched. Meanwhile, improvements in supply chain efficiency – which is where most other industries have found their best return on investment – are also some way further down the line at present, as publishers and booksellers struggle to find any basis for a business case for using RFID at

In conclusion . . .

Faced with the need to transform its libraries into twenty-first century institutions which meet its customers' expectations for ease and speed of use, Essex has used RFID technology as the basis of its change process, accompanied by complementary audience and workforce development programmes to re-brand and re-position its service. RFID-based self service has been welcomed by customers, and the potential that the technology to radically change stock management processes is currently being explored.

NOTES

1. www.resourceshelf.com/2005/10/acquiring-copyright-permission-to.html
2. www.intellident.co.uk
3. www.bt.com
4. www.pikeplacefish.com
5. www.johnstanley.cc
6. www.branchingout.net

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