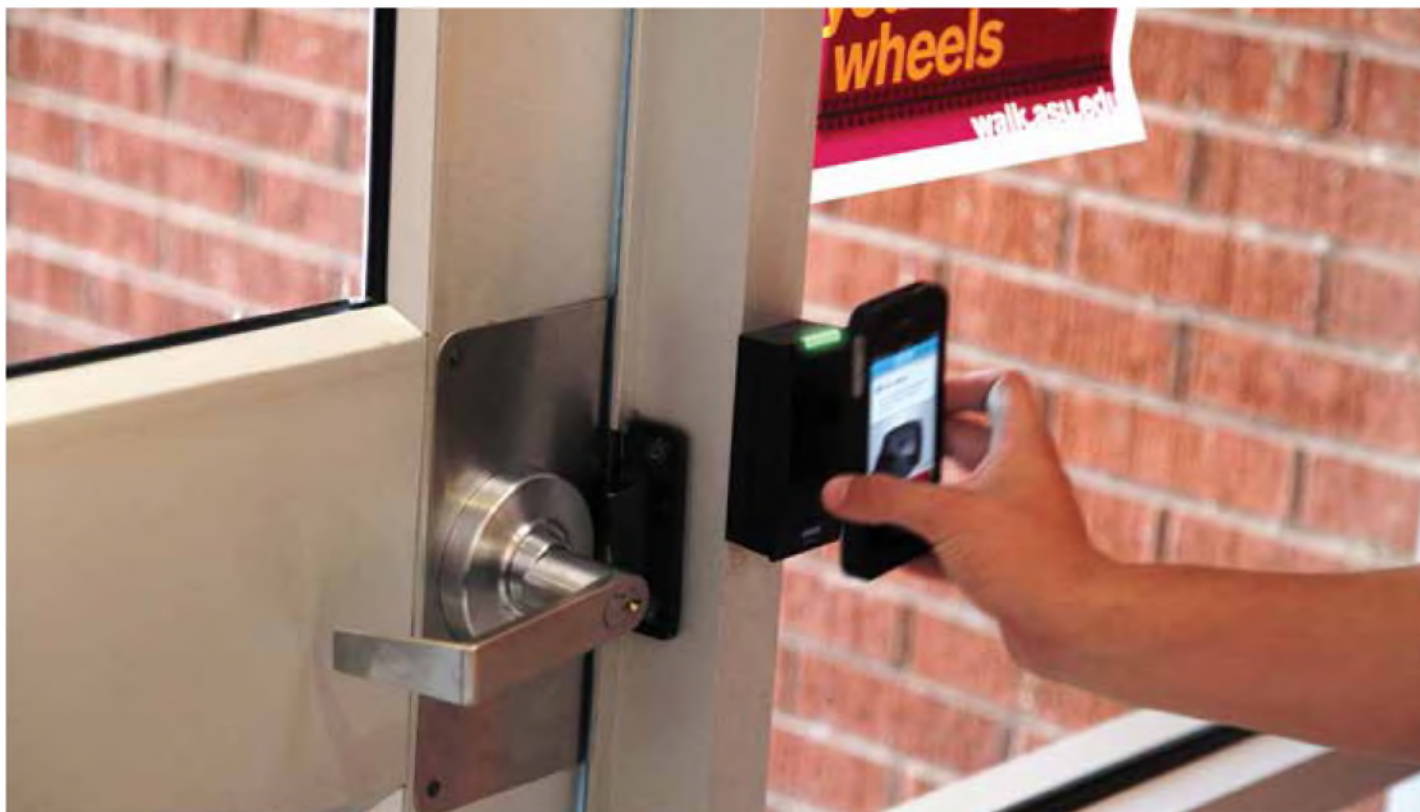


SMARTER THAN THE AVERAGE CARD



Smart cards can provide access to much more than a physical space

There are many different layers of access available through the humble smart card these days, many of which can benefit the library and information sector. While the traditional proximity (or prox) card is an effective and trusted method of allowing access to certain parts of a library building, modern developments can allow access to computer systems and other hardware, store information about the user and their professional requirements, and offer a greater level of security in a simple, easy format.

For nearly 20 years, low frequency (125 kHz) cards have been the standard in the security industry, offering efficient and effective access control. At their simplest, these cards allowed a person access to a building. Whoever had a card in their possession could enter the building, and walk through any doors the card had been set up to protect. This could be an employee who was issued a card or a perpetrator who gained access using a lost or stolen card. Over time,

cards gained visual security such as a photograph, to provide a basic form of authentication. Best security practices would require employees to wear their photo ID/access cards and be trained to challenge anyone in a restricted area without proper identification.

Even smarter smart cards can add new dimensions to the experience of library patrons, make systems and workplace practices more efficient, and save users time and effort.

Today's top standard for access control is the contactless smart card, based on open standards and featuring a universal card edge. Also known as a card command interface, the universal edge improves the card's ability to interact with a broad variety of products within a trusted boundary. The latest

versions improve security, privacy and portability to mobile credentials, and users are increasingly enhancing their cards and badges with more layers of visual and digital security.

Smart cards come in either contact or contactless form, and can offer

three levels of security: single, dual or three-factor authentication. With single-factor authentication, using the card on its own will give access to a computer system or open a door. Dual-factor authentication adds an extra level of security in the form of a PIN code, identifying an individual and transmitting their personal parameters. Three-factor authentication goes a step further, using a PIN and an extra security measure such as a biometric scan.

This all sounds very impressive, but what does it really mean for the average library in Australia? First, think added security provided in a more effective and convenient manner. If an employee is allowed access to all areas of the building where their daily work takes them, a card can be set

up to allow access to just those areas, and yet restrict them from entering others where they do not need to go. A cleaner can be allowed access to the library floor and staff room for example, but restricted from offices that may contain sensitive information or equipment.

'Frictionless' is something of a buzz-word in modern security. This relates to any access solution that doesn't slow a user down, or burden them with multiple cards and tags. Now that a smart card can store information about the person using it, there is scope to achieve much more than just physical access.

The same card that allows a library employee to walk into the building in the morning can be set up to log them into the computer on which they work. Instead of remembering and typing in one or more passwords to access the computer's applications, a touch or wave of the card can do the same thing. This is referred to as logical access, and a system that allows physical access as well as logical access through the same card or tag is a 'converged solution'.

In the same way that cards can be set up to operate within a trusted security boundary and allow or deny access to parts of the building, the same can be achieved with access to parts of the computer network. Systems and files can be smart-card protected, so that only users who need access to them can get in. Sensitive data can be stored in the common archives, but access controlled by card or tag to allow users access to it.

A comprehensive record of who has accessed areas of the building and who has opened specific files can be created using the data collected from card use and other elements within the secure environment. This can be used to better understand how physical space and resources are being used, with a view to improving systems and streamlining workflows.

Library patrons can use the technology in a similar way. Some cards can now store up to 164K of data, which can be used to record a patron's borrowing history, personal information and credentials. The same card could therefore allow access to the library, let the individual check out books and information, and keep a record of borrowed items.

In the same way that retailers in Australia use big data to predict consumer behaviour, a smart card can be programmed to interact with the library database to enhance a patron's experience.

Suppose an individual has a favoured genre, or topic – let's say an interest in bird-watching in the Snowy Mountains. At the point of checking out a book, a card's internal storage can interact with a library's database to alert the patron that a book on that topic has recently been published and advise where it is located.

Another developing area is the use of Near Field Communication (NFC) enabled smartphones to access secure areas and information. This technology follows the same principles as the traditional plastic smart card, but allows digital credentials carrying a user's identity data to be embedded inside a mobile phone, which is then able to exchange data with readers placed on secured doors and systems. NFC smartphones can also be used to provide access to personal borrowing history in the same way as smart cards, but with much more internal storage, the scope is even greater.

There are many advancements in smart card technology that could benefit the library and information services sector in Australia. While advanced security will add to the safety of staff and protect facilities, the same technology can add new dimensions to the experience of library patrons, make systems and workplace practices more efficient, and save users time and effort.

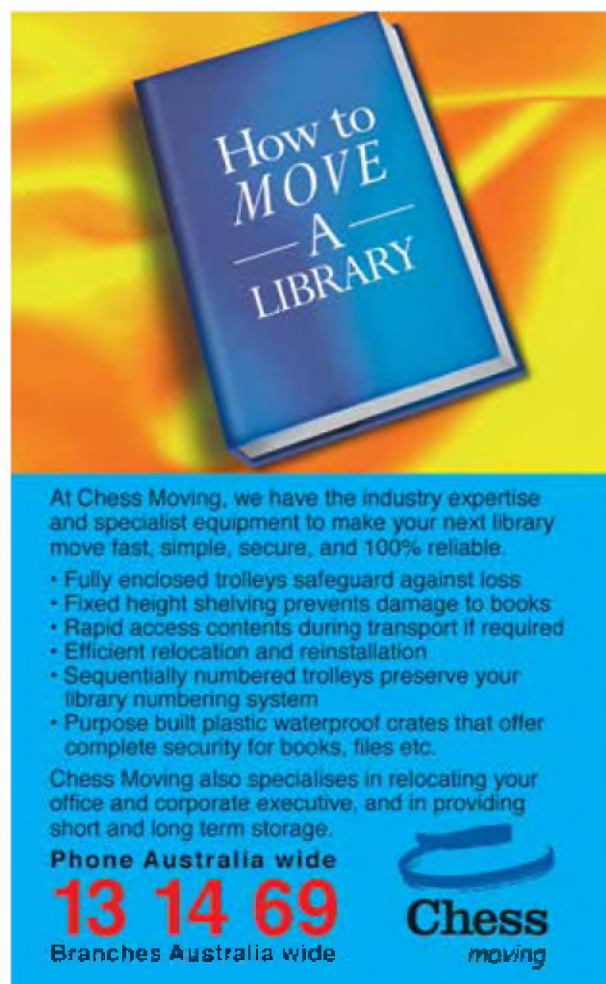
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