



Using Your Smart Phone as a Credit Card Substitute

by Ira Wilsker

It should be news to no one that over the past year there have been massive data breaches at thousands of retail locations. In my case, over the past year, my bankcard issuers have initiated the replacement of four credit cards and a debit card (one major credit card was replaced twice). Since I carefully review my monthly credit card statements for questionable activity, I am fairly confident that although several of my accounts were compromised by the massive retail data breaches, there have been no illicit transactions posted to any of my accounts.

Following last year's massive Target data theft, the media played up the fact that most credit and debit cards in the United States are still using the obsolescent magnetic stripe technology in order to process "POS" (Point of Sale) transactions. It is the vulnerability of this magnetic stripe data, and the methods used to process the digital transactions, have made such transactions vulnerable to cyber attack. As the American credit and debit cards were purloined by the hundreds of millions, the number of European credit and debit cards that were hijacked was much smaller.

For the past several years, the majority of European (and many Asian) issued cards have had a more secure embedded microchip that contained the customer information, rather than the magnetic stripe widely used here.

As overseas POS terminals (and many ATMs) were modified or replaced in order to take advantage of the more secure microchip technology, most domestic POS users have often been reluctant to implement the enhanced security technologies citing the massive capital investment in the current generation of magnetic stripe POS readers.

Looking at my recently replaced credit cards, all have the embedded chip, as well as a magnetic stripe.

These data breaches and the related vulnerabilities have obviously caught the attention of our domestic technology industry, as in recent months there has been a flurry of technological advancements that may offer most of us the opportunity to mitigate the risks of a somewhat insecure plastic credit or debit card.

While much of the media fanfare has gone to the introduction of Apple's Apple Pay electronic payments system (apple.com/apple-pay), others have been active in promoting their respective systems including eBay's PayPal, Google's Wallet, CurrentC (a joint effort of Sears, Target, and WalMart, CVS, and others), GoSoftCard (joint effort of American Express, Chase, and Wells Fargo), and several others.

While there are some variations in the technologies utilized by each, they are all designed to allow the use with a smart phone or related device to make secure retail transactions without the use of a traditional plastic credit or debit card.

With its outstanding ability to promote itself, Apple has had much of the media spotlight with its recently announced Apple Pay system. According to Apple, "Paying in stores or within apps has never been easier. Gone are the days of searching for your wallet. The wasted moments finding the right card. Now payments happen with a single touch. Apple Pay will change how you pay with breakthrough contactless payment technology and unique security features built right into the devices you have with you every day. So you can use your iPhone, Apple Watch, or iPad to pay in a simple, secure, and private way."

What garnered the most attention is a feature of the iPhone 6 devices (also present on many other recent smart phones) called "NFC" or "Near Field Communications ." This is a very short range radio technology that allows digital devices to communicate with each other when held physically close to each other.


Again, according to Apple, "One touch to pay with Touch ID. Now paying in stores happens in one natural motion — there's no need to open an app or even wake your display thanks to the innovative Near Field Communication antenna in iPhone 6. To pay, just hold your iPhone near the contactless reader with your finger on Touch ID. You don't even have to look at the screen to know your payment information was successfully sent. A subtle vibration and beep let you know."


Other Apple devices, without the NFC capability can use the Apple Pay app along with an integral finger print reader (part of the Apple Pay app) to complete a financial transaction without presenting a plastic credit card. Apple Pay requires that one or more established credit card accounts be linked to Apple Pay, with the user having the option to select which credit card will be used to process the Apple Pay transaction. By default, the credit card linked to the user's iTunes account is the primary credit source, but other cards can be securely added to the account.

An easier way to pay in stores.

iPhone 6

One touch to pay with Touch ID. Now paying in stores happens in one natural motion — there's no need to open an app or even wake your display thanks to the innovative Near Field Communication antenna in iPhone 6. To pay, just hold your iPhone near the contactless reader with your finger on Touch ID. You don't even have to look at the screen to know your payment information was successfully sent. A subtle vibration and beep let you know.

[Watch the demo](#) 



PayPal, one of the world's most widely used digital payment systems, recently introduced its own smart phone app that can be used for in-store POS transactions (paypal.com/us/webapps/mpp/pay-in-stores), without the use of a plastic credit card.

According to PayPal, “Forget your wallet. Use our app like a wallet to pay at the counter, from the table, or from around the corner, your order is in your hands. Or simply select PayPal at the register to log in and pay, just like online.”

Experimenting with the PayPal Store Locator (paypal.com/us/webapps/mpp/store-locator), using the Examiner’s zip code (77701), there were about 75 nearby businesses that accept payments with the PayPal app including Home Depot, Dollar General, OfficeDepot, American Eagle, Aeropostale, ToysRUs, Academy Sports, and a variety of medical offices, florists, clothing stores and boutiques, restaurants, retailers and service businesses.

Traditional PayPal transactions are connected to an existing bank account or credit card for ultimate payment.

tions in to their SoftCard app.

SoftCard, which is a free app for Android and Windows Phone, requires a compatible smart phone with NFC (Near Field Communications) in order to converse with the POS devices.

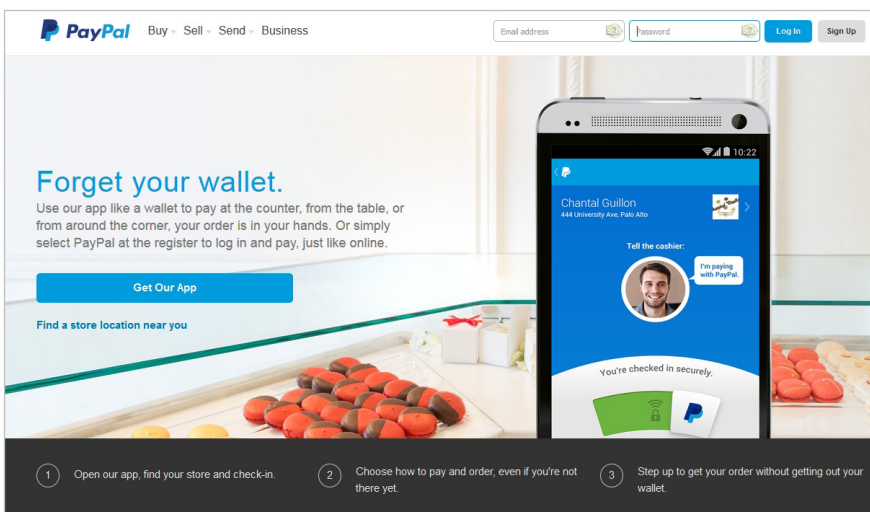
Many smart phones will need an advanced SIM card, which is designed to securely store and protect sensitive payment information; generally, the participating cell phone carriers will replace an older SIM card with the newer advanced card at no charge. The user adds participating credit and debit card information to the device, which securely stores the information. Some

participating merchants and credit card companies will be displayed on the phone when in proximity of the merchant. One example, listed as I type this, is American Express offering a \$1 cash back bonus, in addition to any other rewards, for each SoftCard transaction utilizing American Express.

Google wants very badly to compete in this lucrative field, and had developed an advanced digital “Wallet” (wallet.google.com) that can utilize a secure app that can be used for a variety of transactions.

For users with NFC compatible phones, that feature can be used at many retail locations; for those without a compatible phone, Google Wallet offers a secure plastic Google Wallet Card which is accepted domestically wherever a Debit MasterCard is accepted.

This card can be used as a debit or credit card, using the same PIN number as the Wallet account. Google requires that an existing card be linked to the Wallet account. As with most of the competitors, any rewards or loyalty points affiliated with the linked card will continue to be earned. Google Wallet can be used almost anywhere that Master Card is accepted, meaning that there are millions of locations that already accept it.



A consortium of major banks, along with the major cell phone companies have created an app “SoftCard” which enables users to digitally enroll their existing credit cards issued by American Express, Chase, Wells Fargo, and many other institu-

prepaid cards can also be incorporated into the SoftCard app. Existing loyalty plans, membership and rewards benefits, and other features of existing credit cards are maintained when used with SoftCard. Special offers that may be available from

The NFC feature of Google Wallet can be used anywhere that MasterCard PayPass is used (mastercard.us/cardholder-services/paypass-locator.html).

Several of the largest retailers, including Target, WalMart, and Sears, CVS, and RiteAid have created a consortium under the moniker “CurrentC” (pronounced like the

CurrentC is designed to connect directly to the consumer’s bank account, bypassing the credit card fees imposed by the bank cards on the retailers.

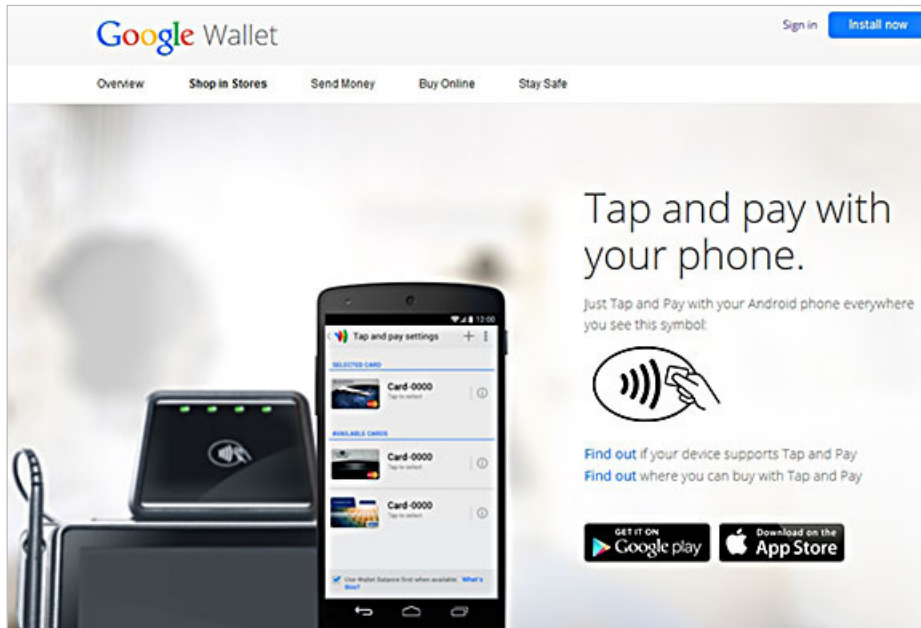
Like many of the existing individual store cards and loyalty cards, CurrentC can take advantage of the personal information entered by the user when the account is created.

substantial losses.

We will also see these payment systems evolve and improve as they become more widely accepted, along with the inevitable failure of some.

We may see consolidations (mergers) among some of these systems, and some may simply cease to exist as they find that they cannot successfully compete in the market place.

Whatever happens with these new payment systems, it appears likely that our traditional plastic credit cards may become as obsolescent as paper checks have become, and these new technologies will reign supreme...until some newer technologies make these obsolete. In terms of POS payment technology, this will be an interesting couple of years.



money “currency”). Several of these retailers have already announced that they will not be accepting Apple Pay, and possibly some of the other smart phone based payment systems.

Projected to be widely available by early 2015 as these and other retailers implement the system, CurrentC works differently than the other smart phone payment systems, as the free app will work on almost all smart phones, as CurrentC does not incorporate NFC. Instead of using NFC, which is not available on most of the existing smart phones, CurrentC displays a unique bar code or QR type of image on the phone screen that is scanned by the cashier; every transaction will have a unique image displayed.

Since CurrentC will have some personal information, incentives, rewards, coupons and other promotions may be offered the user. CurrentC will implement a “Save, Earn Pay” service where users will automatically receive offers, coupons, and other incentives from the participating retailers (Save); get instant points and rewards from participating loyalty programs (Earn); and combine and coordinate between checking accounts, store gift cards, and selected credit and debit cards (Pay).

I predict that as these new technologies become more widely implemented, we will see the number of mass data thefts decline, saving the financial institutions (and their millions of account holders) from

WEBSITES

<https://www.paypal.com/us/webapps/mpp/pay-in-stores>

<https://www.paypal.com/us/webapps/mpp/store-locator>

<http://www.pcworld.com/article/2846535/a-guide-to-the-top-mobile-payments-options.html>

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<http://www.pcworld.com/article/2607312/how-apple-pay-could-make-the-target-and-home-depot-breaches-a-thing-of-the-past.html>

<https://www.gosoftcard.com>

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<https://www.google.com/wallet/shop-in-stores/>

<http://www.mastercard.us/cardholder-services/paypass-locator.html>