WHAT IS A MOBILE WALLET?
AN INTRO TO MOBILE WALLETS
WHAT IS A MOBILE WALLET?

PART 1 – CONSUMER TECHNOLOGY

Perhaps you are skeptic about mobile wallets and if your Credit Union membership will adopt them. If so, you have come to the right place. This ebook will attempt to explain the basics of mobile wallets and how they will impact your membership.

First, a mobile wallet, just like a normal wallet, will have lots of different versions. Instead of Velcro, leather, a money clip or rubber band, members will have many different options and choices and one size probably won’t fit all. A mobile wallet is a digital version of your normal wallet that sits on your smartphone and replicates much if not all of the functionality of your old physical worn out wallet.

Let’s start with the technology. To get a full version – click here> (http://en.wikipedia.org/wiki/Smartphone)

Once you get over the shock that the first one was actually created by IBM in 1992… we can fast forward to what I think most of us would consider the first “useful” smart phone which really got mass adoption when Apple launched the iPhone in 2007. Yup – just 7 years ago. Now we probably couldn’t go without it for more than a few minutes. The technology behind the mobile wallet has been advancing along the same lines. We believe there are three technologies that have come together to create mobile wallets. First, involves smart phone technology which includes things like app stores, digital cameras, GPS tracking, graphical representations of the wallet, and real-time connectivity to your financial institution.

Second, there are security features. These include:  
- Secure Elements  
- Fingerprint Scanners  
- Tokenization

Third there are payment settlement mechanisms including:  
- NFC (Near Field Communication)  
- Blue Tooth Low Voltage  
- QR Codes  
- Beacons

Each of these along with the basic app store and operating system on the phone enable different flavors, security, functionality and adoption of Mobile Wallets. The trick is finding the right combination that takes into account what members are ready for, what is widely available, and what works right now. All of this will change with breakneck speed… just like the explosion of smartphone technology. No one Mobile Wallet will win 100% of the market.

The CU Wallet mobile wallet today is a combination of a smart phone with QR code technology and Tokenization. This will change quickly though and is already built to support NFC and Blue Tooth functionality. Shortly it will support fingerprint authentication and someday may support additional features through the use of voice recognition, facial recognition, geo positioning, and secure elements.

These technologies establish the baseline of a platform that will allow for a never ending increase in functionality that can be provided and innovated on behalf of the consumer. Credit Unions need to begin adopting and planning for this change as it will occur in the blink of the eye and we are already late to the game.
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PART 2 - MERCHANT TECHNOLOGY

Last time we covered the main technology components of a mobile wallet and how smart phones will help us move away from physical wallets to mobile wallets. This time we are focused on the technology that merchants will need to have for each type of mobile wallet technology. If you have been following any of the financial regulator changes you should have seen the Durbin Act get passed in 2010. This should be a clear sign that merchants are at war with legacy payment platforms and are actively seeking new mediums that A) lower prices B) increase sales C) improve loyalty D) reduce fraud. Today merchants can accept one of the following options:

<table>
<thead>
<tr>
<th>Payment</th>
<th>Strengths</th>
<th>Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>Fast, no repudiation, low fraud, low transaction fees, no terminal required</td>
<td>Theft, Security</td>
</tr>
<tr>
<td>Check</td>
<td>Low Transaction fees</td>
<td>Slow, Security, Fraud</td>
</tr>
<tr>
<td>Visa/Mastercard/Discover</td>
<td>Credit Purchases, Fast, Fraud born by bank</td>
<td>Transaction Fees, terminal required</td>
</tr>
<tr>
<td>America Express</td>
<td>Credit Purchases, Fast</td>
<td>Transaction Fees, fraud born by merchant, terminal required</td>
</tr>
<tr>
<td>PayPal</td>
<td>Low transaction fees, no terminal required</td>
<td>Slow (ACH),</td>
</tr>
<tr>
<td>Dwolla</td>
<td>Low transaction fees, no terminal required</td>
<td>Slow (ACH),</td>
</tr>
<tr>
<td>Prepaid Cards</td>
<td>Lower Transaction Fees, builds loyalty, no repudiation</td>
<td>Security, Slow to refund (ACH or other), transaction fees</td>
</tr>
<tr>
<td>Debit Cards</td>
<td>Lower Transaction Fees, no repudiation</td>
<td>Terminal Required</td>
</tr>
</tbody>
</table>

As you can see, merchants are heavily incented to push debit cards as it lowers their repudiation risk and transaction fees. Without the promise of new customers and/or the reduction of fraud the incentive for the merchant to take credit cards or checks isn’t what it once was.
PART 2 - MERCHANT TECHNOLOGY - CONTINUED

Mobile Wallets have the potential to greatly reduce fraud risk while increasing data and membership loyalty at merchants. Hence, even for the same transaction fees, if the merchant gets more business and especially more repeat business – there is a huge upside for merchant adoption. The second leg of merchant technology involves the payment terminals. Today payment terminals have a multitude of technology including the following:

<table>
<thead>
<tr>
<th>Terminal Type</th>
<th>Features</th>
<th>Pros /Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Register</td>
<td>Cash Storage, Receipts</td>
<td>Security</td>
</tr>
<tr>
<td>Swipe Terminal (pinless)</td>
<td>Credit Cards, Pre-paid</td>
<td>Faster Settlement</td>
</tr>
<tr>
<td>Check Scanner</td>
<td>Check Only</td>
<td>Better Security</td>
</tr>
<tr>
<td>Swipe Terminal (PIN)</td>
<td>Credit Cards, Pre-paid and Debit</td>
<td>Only at a few merchants</td>
</tr>
<tr>
<td>PayPal</td>
<td>Access your PayPal money</td>
<td>Not all merchants support, expensive to add, won’t work at restaurants, doesn’t tokenize the transaction</td>
</tr>
<tr>
<td>NFC (near field)</td>
<td>Takes any tender type from a mobile wallet</td>
<td>Not all merchants support, won’t work at restaurants</td>
</tr>
<tr>
<td>BlueTooth</td>
<td>Takes any tender type from a mobile wallet, cheap to add</td>
<td>Less expensive than other options and easy to implement</td>
</tr>
<tr>
<td>Bar Code/QR Code Present</td>
<td>Takes any tender type from a mobile wallet, cheap to add, supports any merchant who can print or display a QR Code, tokenized security improvements</td>
<td>Supports any merchant who can print or display a QR Code, tokenized security improvements</td>
</tr>
</tbody>
</table>
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PART 3 – WHO ARE MOBILE WALLETS FOR?

In this section we will cover the demographics of mobile wallet users. As in most questions of this nature, there are really multiple questions to ask.

They include:
• What are the demographics of mobile payment apps in general?
• What are the demographics of my credit union today?
• What are the demographics of the credit union I want tomorrow?
• What are the demographics of smart phone technology today?
• What are the demographics of my smart phone users today?

To begin, let’s look at the first question. General demographics. At a recent CU Wallet advisory board meeting, the guy behind the Starbucks app shared some data. The current stats include 70 million Starbucks app downloads. Most surprisingly, the demographic breakdown is pretty much spread across all age groups and generations (that drink coffee). I don’t think many 4 year olds have the app – although I know mine would if I would let them drink coffee or use my iPhone. In addition, usage is growing FAST. There are 10 million active users and 4 million payments per week or about 10% of all payments at Starbucks. This up from 3 million a month ago… Click here for the data (http://digital-stats.blogspot.com/2013/05/starbucks-has-4-million-mobile-app.html).

The most surprising thing the Starbucks guy mentioned was that there is NOT one group that dominates the usage or downloads. What conclusions should you make based on that? Well, I would go with – your whole membership is going to have interest in a mobile wallet. What seems to be stopping usage more than anything is privacy concerns. Credit Unions are much less likely to confront this issue as they are much more trusted party and credit unions already know all of the financial data about the member. Ultimately, it is our opinion that adoption is probably more likely to be based on privacy concerns vs. age groups.

The second aspect of this is the different types of smart phones. Apple (iOS based), Android, and Windows based smart phones. Only about 45% of smart phones are Apple based. Hence, unless you believe that only your iPhone users will want a mobile wallet – you probably need to focus on a strategy that includes your whole membership.

So back to “Who are mobile wallets for?” In our opinion, mobile wallets will be for all of your members across all age groups and generations.

Second, mobile wallets need to support multiple smart phone platforms.

Third, adoption is happening already and will continue to accelerate over the coming weeks and months.
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PART 4 - WHAT DOES THE AVERAGE MOBILE WALLET USER LOOK LIKE?

According to a recent PEW Internet Projects research study 90% of adult consumers have a cell phone and 58% have a smart phone as of January 2014. 83% percent of consumers 18 to 29 and 81% of people with incomes over 75k have phones. Unless you are specifically targeting a low income designation that probably means the future borrowers, savers and users of credit unions have widely adopted smart phone technology.

With almost 60% of consumers having smart phones and the rest soon to follow, we have surpassed the tipping point of when a technology is mainstream.

One place we can look for demographic info is at PayPal. PayPal started in 1998 with PayPal looking to help settle payments more reliably as the internet took off. 16 years later – they have 150 million accounts and yet they are relying on ACH and traditional payment mechanisms. Amazingly enough 88% of their users are under 55 and 84% have incomes under $75k annually. So, a complete uninsured payment tool that is all electronic and web based has demonstrated the power of quicker, faster payment tools.

We have discussed “Who mobile wallets are for?” ultimately we concluded that based on Starbucks they are really for all consumers. Certainly the Paypal and demographic shows that your younger and wealthier members will adopt the technology first, but it won’t take long for your whole membership to participate.

So what will drive the adoption? What do members want? According to a variety of studies it comes down to two things A) security and B) perks. Yup, that’s it.

Members are sick of the ancient credit card technology that has led to massive fraud and hassle for consumers (and credit unions) alike. Second, they want deals.

Consequently the average mobile wallet looks like it will probably be:

- A smart phone users (58% of Americans)
- Under 55 (although adoption will be high in older demographics too)
- All incomes
- Members who value security (members trust CU’s more in this area – it will be key for the Credit Union to explain the security improvement in terms the member understands)
- Members who want deals

Some might argue ubiquity is key to adoption. We disagree, it is certainly important but ultimately most disruptive technologies require an incremental improvement that is better or cheaper than today. Ubiquity is important for long-term adoption and long-term competition but plenty of mainstream technologies didn’t start in the mainstream.

The CU Wallet platform is focused on both Android and iOS smartphone adoption so that we don’t leave out half our memberships. It adds significant security features such as tokenization while leveraging legacy fraud detection and repudiation systems. Has the capability to further expand authentication and security through things like Voice Recognition and Facial Recognition software. And most importantly – is integrated with a deal platform that provides unique ads and offers for members.
If you think a person to person application is a mobile wallet, then CU Wallet is probably not for you. However, if you think credit unions need to stop the disintermediation that PayPal, Apple, Google Wallet, Dwolla, and many others are using to lure away your members (and your Revenue), then CU Wallet is for you. Who are the top five mobile wallet providers?

To start, here they are:

- Apple iPay
- Paydiant
- Google Wallet
- Softcard
- MCX

Each of these are attempting to bring a mobile wallet and/or an alternative payment method that inserts itself between the credit union and YOUR member. In the normal merchant to consumer payment chain, there are already 7 to 8 providers taking a cut of the interchange revenue. That is a lot of mouths to feed. At the end of that, credit unions already take a pretty small cut. With another mouth in the middle though it comes right out of your already quickly declining interchange revenue. Here are some pros and cons of each one:

**Apple iPay**

Apple iPay uses NFC (near field communication) technology to allow “tap and pay” access at about 200,000 merchants. In exchange, they will tokenize the transaction. For their service they will charge a tokenization fee (.07) and .15 of the transaction. Hence, we believe this will cut credit union interchange in half. The good news is that only about half of your members will be using an iPhone. Also, the Credit Union will have to work to get their credit union credit card into the Wallet, as Apple is starting with its 800 million iTunes cards which we believe only about 2% are credit union cards. The plus of all of this is that Apple will open the door for credit unions to create unique value and opportunities with mobile wallets for their members.

**Paydiant**

CU Wallet and Paydiant have partnered to bring a mobile wallet platform to credit unions. This platform will A) do nothing to disrupt your current interchange B) Supports NFC, QR Code Technology, and BlueTooth Low Voltage payment technology C) enable the credit union to provide real-time information to their member D) enable the credit union to leverage its data E) create new revenue channels like ads and offers. The CU Wallet platform will also tokenize the transaction which greatly increases the security.

**Google Wallet**

Google Wallet is essentially just like Apple iPay but not as cool. The other 50% of devices will be supported here along with NFC. In this scenario though, Google is not partnering with the big banks and taking a cut of the transaction, instead, they are mining YOUR members data and using it to sell more stuff using their Adwords platform. In addition, all of the transaction data about where your member spends their money will no longer be available in the credit union. Instead, Google Wallet Transaction will replace it.

**Softcard**

Softcard is a mobile wallet platform that was developed by a consortium of telecom providers. Essentially, just like Google and Apple – Verizon, Sprint, T-Mobile all wanted a cut of the 7 Trillion dollar payments space. Softcard attempted to use a secure element (or a separate computer chip) to store credit cards and then to leverage the data and take a piece of the payment pie. This one has fizzled despite hundreds of millions of dollars being spent.

**MCX**

MCX is not really a mobile wallet platform. Instead, it is a consortium of merchants aiming to specifically lower transaction and credit card interchange. Walmart, Target, etc. are all focused on this agenda, together. MCX recently adopted the Paydiant platform and is working to leverage the mobile wallet technology in Paydiant to support ads, offers, and rewards so that they can drive new or changed business without just paying a fee.

Many of the Mobile Wallet platforms are really just blatant attempts to get in on the huge industry that is payments. Each time the platform targets or tries a new angle, it seems to have the same effect on credit unions. Reduced interchange fees and reduced data for the credit union. Both are terrible for you and your members.

**PART 5 – WHO ARE THE TOP FIVE MOBILE WALLET PROVIDERS?**
While many of these other technologies are worth investigating and perhaps including as part of the mobile wallet strategy for your credit union, it's important to understand the value of having your own branded mobile wallet.

CU Wallet, is a Credit Union Services Organization (CUSO) that leverages cooperative research and development of credit unions across North America to develop effective mobile wallet strategies and technology for their clients. CU Wallet strongly recommends incorporation of your own Credit Union branded mobile wallet as part of your strategy.

A BRANDED MOBILE WALLET THROUGH CU WALLET WILL ALLOW YOU TO:
- Promote YOUR brand, to YOUR members, WITHOUT intermediaries.
- Tokenized security with a competitive member experience for retention and growth.
- Aggregated purchase data to analyze and support member needs.
- New revenue streams from ads, offers and value added services.
- Leverage participation of merchants, merchant acquirer processors and banking peers.

SEE WHAT OTHER CREDIT UNION EXECUTIVES ARE SAYING ABOUT CU WALLET:

"Collaboration among credit unions continues to be one of our industry’s greatest strengths. The CU Wallet platform makes collaboration easy and efficient, but still allows credit unions to tailor the member experience."

Keith Sultemeier
Kinecta Federal Credit Union, President/CEO

“CU Wallet is our industry’s best weapon in the fierce battle being waged for our members who want robust digital services including wallets and payment options. All credit unions should have a strategy and a solution. In the very near future mobile digital offerings may become the most important measure of a credit union’s relevancy to members.”

Jim Laffoon
Security Service Federal Credit Union (SSFCU), President/CEO