

# Contactless payments puts purchase power at your fingertips

The following article is a guest post by [DataArt](#) Payment Systems Expert **Vasily Bernshteyn** and **Steve Pscheid**, head of DataArt's Munich office.

The world of payments is rapidly changing. Demand for P2P payments, blockchain technologies and distributed systems continue to grow and advance.

While these technologies are relatively new and their future is still uncertain, contactless payments, supported by major industry players, are here now. In fact, Juniper Research says that the number of mobile wallets using contactless technology is expected to reach 200 million by the end of 2016, up 100% from the end of 2014.

Contactless payments, which was developed by innovator in fraud protection EMV, focuses on the speed of payments. In the past, a typical card transaction required a modem connection to a bank, a very timely process. We can still remember the “noisy handshake” sounds made by the modem.

At that time inserting a card and entering a PIN was a minor inconvenience. However, over time with advancements in telecommunications, leased lines have become the norm for businesses to connect to banks, and inserting a card has become a bottleneck.

Today, contactless payments are fast and easy. You just tap your card – and that's it! You don't even need to enter a PIN for small amounts. You can buy a cup of coffee in a vending machine by just tapping your card on a reader.

Deloitte predicts that by the end of 2015, five percent of the 600-650 million near-field equipped (NFC) phones will be used at least once a month to make contact in-store payments at retail outlets. This November, Ingenico, a leader in seamless payments, demonstrated a flat screen that shows an animated picture of goods for sale which you can buy by simply tapping your card on a screen to pay for it – a very easy, intuitive process.

Mobile device industry giants are rushing to get into the market, to establish market share dominance in this fast-growing sector. Apple Pay, the industry standard, is more about how it easily integrates with a user who makes a payment instead of how it integrates with a

bank. With Apply Pay, the user can simply place his finger on the home button and tap the device, without having to remember to enter a PIN. Apple responded to people's needs, and other players were quick to follow suit, including the Android 6.0 with a standardized API for fingerprint authentication.

To enable contactless payments on mobile devices, there are two methods to secure payment card information. Apple Pay works with its proprietary secure chip Secure Element (SE) which is embedded into an iPhone. Android Pay supports both SE and Host Card Emulation (HCE).

Which one is better? As usual – it depends on what your target is. SE easily provides compliance with high security standards but adds several dollars to the cost of the mobile parts and, subsequently, to its retail price. While it costs additional money, it requires no additional infrastructure and allows off-line transactions.

On the other hand, HCE utilizes cloud computing, and requires a sophisticated infrastructure. Your mobile can't perform a transaction without a connection to the Internet. This technology was developed to decrease the hardware requirements allowing low-price mobiles to enter the Android Pay world.

If you ask our opinion – we definitely support the SE approach, as it allows utilization of one of the main contactless payments advantages, payment speed. Because there is no need for an interaction over the Internet, it works faster. Another advantage is that it doesn't cost anything for mobile data exchange when a device is in roaming.

From a technology point of view, Zwipec, a biometric authentication company, is attempting to make a regular card with a fingerprint authentication backed by MasterCard. They plan to launch in Q1 2016 in Europe. This is especially interesting as they make fingerprint recognition instead of PIN entry on a card with a regular form factor, with no battery inside.

We believe that the future of payments is in biometric authentication. Will it be a fingerprint, iris or DNA sensor? I believe that in the near future you won't need a card to make a small transaction. You will be able to just tap a device with your hand, it will recognize you and then charge your account automatically. Sounds like sci-fi? Well, today it is, but who knows what new payment technology will appear tomorrow.

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