Co-branded card in mobile phone

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Year 2017 in Russia was commemorated by launch and active development of mobile wallet solutions by leading vendors. Using Apple Pay, Samsung Pay, Android Pay as payment tools may not look completely natural yet, but it certainly makes the cashiers horrified anymore. The number of banks serving virtual cards issued inside mobile wallet applications is increasing day after day. NFC modules, originally presented only in flagship smartphones, are now making their way into the budget segment. Payment terminals and ATMs are regularly upgraded to new models supporting contactless payments and therefore mobile payments. The trend towards bank cards migration into mobile devices is obvious, with different forecasts for plastic cards final extinction.

The loyalty systems are developing in an absolutely parallel reality, but with the same clear bias towards using mobile devices as containers. Since security requirements loyalty cards are not so high, all available solutions for loyalty cards emulation in mobile phones are reduced to storing or dynamically generating a barcode or QR code. These loyalty cards can be stored inside a certain retailer's mobile application or, in their simplest forms, in mobile wallets. All you need to do for adding loyalty card to your mobile device is to take photograph of the card, and perform necessary authorization if the loyalty service features have some kind of personal account technology.

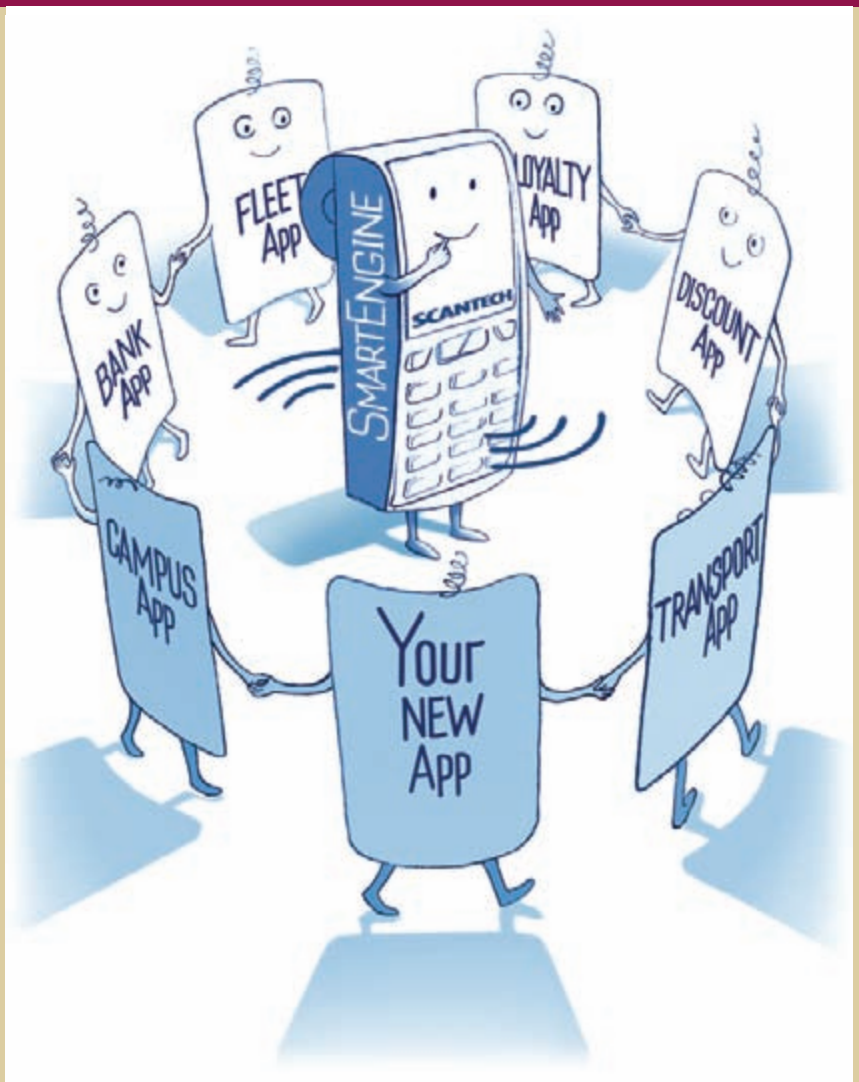
The issue of compatibility (or rather combinability) of bank card and loyalty card in the same mobile device is highly relevant to us. SCANTECH solutions including terminal software for bank, fuel and loyalty cards and Java applets are actively used by Russian leading fuel companies . For large fueling stations, as well as any large retail chain, customer convenience and transaction speed are key selection criteria when shopping for a technological solution. This is why all of these loyalty projects – Lukoil Club, We Are On the Way (GazPromNeft), Family Team by Rosneft and BP Club — use co-branded cards. For these cards payment transactions with points accumulation of are performed by one tap. It should be noted that all above mentioned loyalty projects feature a closer interaction between retailer and customer than cashback loyalty programs. For example, a co-branded card can be used as an ordinary loyalty card when you pay in cash. Loyalty card data in the aforementioned loyalty programs are processed using dedicated non-banking servers. To implement in terminal software support for two effectively independent applications on one co-branded card (banking and loyalty) we need to spend major effort, which yielded excellent results. Now we are facing with problem of transferring this technological approach to the mobile platforms.

Using access to NFC controller in Android OS we emulate loyalty cards in mobile phone as part of the respective mobile applications. However, it did not enable servicing two transactions by one tap. Apple does not provide access to its NFC controller to emulate cards, so this feature was not available on iOS platform.

Fortunately, both Apple and Google are looking forward to using the most hi-tech solutions. So both companies bit by bit are opening opportunity to use NFC interface for loyalty card implementation as a part of mobile wallet applications. According to publicly available information, Apple has launched similar projects in the US. Google also has alike solution. Since we have supported it in our software solution, I will go into more detail on that.

But before I would like to focus on the following important technological issue. A quick and generally successful launch of mobile wallet applications was largely due to the readiness of terminal infrastructure. From the viewpoint of interacting with terminal mobile device emulates payment card application interface in respective payment system, so the only need is to add On-device CVM mode to terminal software. This mode in most cases was implemented long before the mobile wallets had been launched. But if transactions servicing is the key business of payment systems, retail chains implementing their own loyalty programs do not have proper technology support. Neither EMV specifications, nor payment card application specifications offer proven and secure way to store loyalty data on co-branded cards. This is why we had to develop a number of specialized applets bridging this gap in co-branded cards usage[1]. An attempt to

[1] *A. V. Spesivtsev*. Co-branding with a bank: selecting optimum media for loyalty. PLAS information and analytical magazine No. 5 (240). 2017.



standardize NFC interface for loyalty cards was made by the Mobile Operators Association in 2015, when they had the illusion they could find their place in the developing ecosystem of mobile payments. However, advent of Apple Pay, Android Pay and Samsung Pay shifted the vector. But no organizational structure establishing technical standardization of interface protocols between terminal and virtual loyalty card inside a mobile wallet application. This is why each vendor has to develop their own protocol. For Android Pay integration terminal software has to support Google SmartTap protocol.

So, how does this work in practice?

To enable performance of both banking and loyalty transactions using Android Pay by "single tap" the following technological steps need to be carried out:

- loyalty processing must support Google's "Save to Android Pay" interface, which ensures loading loyalty data into Google; both procedures necessary to load existing loyalty cards ("sign-in") and to issue new virtual cards for new clients ("sign-up") need to be implemented;
- terminal software must implement Google SmartTap protocol, process loyalty data inside terminal or send this data to the cash register;

Once technological platform is ready, customers must be motivated to load their loyalty cards into Android Pay, whether by using marketing incentives or offering loading tools on the application website, inside Android Pay application or by following a link in a Push notification that is activated when Android Pay is used at a retail store.

The key advantages of mobile co-branding versus physical card are as follows:

- Physical combination of loyalty card and any banking card (consumer attractiveness of the loyalty program could be improved by rewarding extra bonus points for payments using mobile payment application under an agreement with the respective bank);
- possibility of active and innovative engagement of new clients by the retail chain;
- Lack of overheads on the bank's side associated with launch of this solution;
- Using mobile loyalty not just as a container for loyalty card ID but also to distribute promotions or gift cards.

Definitely, using all these features requires a more complex integration of terminal solution into retailer's infrastructure. This is what we do in our solutions. SmartEngine terminal application installed on more than 15,000 fueling stations operated by Russian leading fuel companies provides service of banking, loyalty, discount and fuel cards of various payment systems by single terminal unit.

Over our 25 years of history, we can see that integrated projects are generally more successful. This is why, in addition to Google SmartTap support, we also offer an SDK, which simplifies integration of loyalty systems with Google services.

For smaller retail networks that still want to be at the cutting edge of technological progress, we offer multi-platform library that can be integrated with cash register with compact wireless smart-card reader connected.

We are glad to note that SCANTECH is the first Russian company implementing SmartTap technology in terminal software.

We will demonstrate this solution for the first time at the IV International Forum "NFC Live", which will take place on November 21–22, 2017 at Marriott Grand Hotel in Moscow.