DEMATERIALIZE YOUR CARDS IN MOBILE WALLET PASS

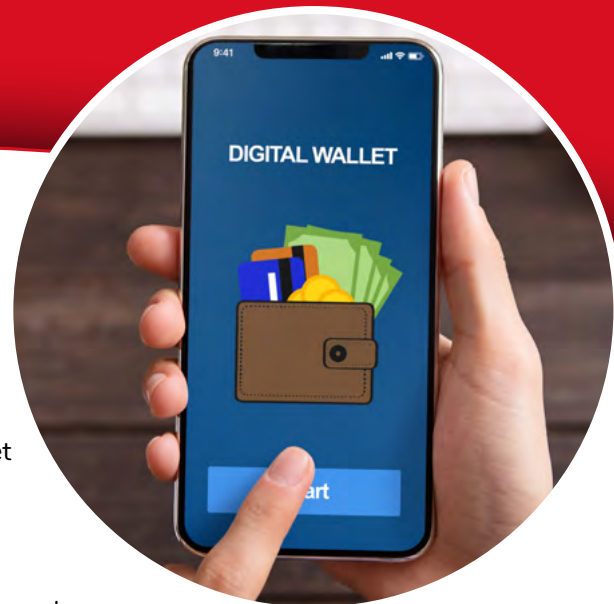# SPRINGPASS BY SPRINGCARD

Contactless Solutions

• 2021 •

SpringPass

SPRINGPASS BY SPRINGCARD

It is a web service allowing to generate NFC pass in order to dematerialize contactless cards or RFID badges by virtualizing them into your mobile wallet (smartphone).

A mobile wallet is the digital equivalent of a physical wallet.
A place to store and organize your dematerialized cards on a mobile device.
It stores credit cards, loyalty cards, coupons, stored value cards, membership cards, tickets and more in one place.

Unlike physical cards contained in a physical wallet, a pass can be updated at any time (for example, the balance of loyalty points). A pass can also remind a customer where and when it is best time to use it (for example his discount pass). The mobile wallet offers the next generation of customer management, while providing security, efficiency, optimization and modernization.

Our service https://springpass.springcard.com/ provides passes for Apple Wallet and Google Pay.
These pass are to be used with SpringCard readers and applications supporting Apple VAS or Google Smart Tap.
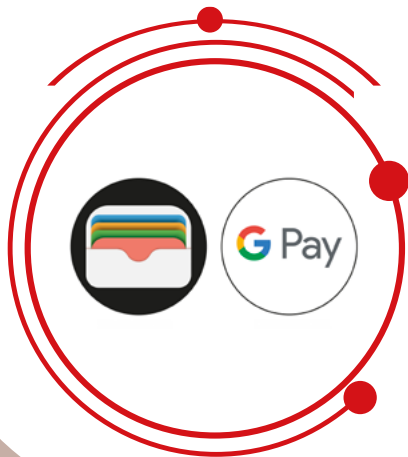
APPLE VAS AND GOOGLE SMART TAP

SpringPass by SpringCard is an administrative and technical intermediary between Apple and Google systems and an organization wishing to offer NFC dematerialization to its end-users, a reseller wishing to offer this solution to its customers, for their end-users.
On Apple iOS architectures (iPhone), the system is based on Apple VAS technology.
On Android architectures, the system is based on Google Smart Tap technology.

WHAT DOES WALLET MEAN?

Your mobile wallet is a pre-installed (native) application on most smartphones.
For iPhone it's called Apple Wallet, for Android it's called Google Pay.

Apple Wallet and Google Pay are becoming an everyday, reliable and preferred use for mobile payments, customer management for loyalty systems, coupons, ticketing and more.

So the wallet is a place to store and use a digital version of something you used to manage on paper or plastic, and SpringPass by SpringCard is helping you in this transformation.

ZOOM on Apple VAS

APPLE WALLET ON IPHONE

#PRESENTATION

It is the application for storing credit cards credit cards, transportation cards, boarding passes, event tickets, loyalty cards, student cards...

It is the visible part of the Apple Pay system.

For non-payment uses, it has, since the beginning, offered the possibility to store a barcode or a QRCode (2D barcode) that is displayed on the screen.

The VAS concept allows for non-payment uses (simple identification, loyalty, events, etc.) to use NFC and not just barcodes.

VAS stands for Value Added Services and refers to the notion of «additional value added service» provided for in the EMV specifications (EuroPay, MasterCard, Visa, i.e. the interoperability framework for all payment systems).

Apple VAS is therefore an extension of Apple Pay that allows the transmission of identification data via NFC - and not just via barcode.

⇨ THE NFC PASS

They are stored in Apple Wallet like barcode pass, but they are associated with a particular authorization that allows the iPhone to transmit them by NFC.

Pass Apple Wallet

WHAT IS THE PASS ?

An Apple Wallet pass is a file with the .pkpass extension (Apple «passbook» format).

This file is in fact a ZIP archive whose extension has simply been changed, and which itself contains in several files:

> the visual description of the pass, (background color or image, logo, text, barcode),

> the identifier of the organization holding the pass, the associated security key and the useful data to be transmitted by NFC to the readers of this organization,

> the digital signature, RSA signature of all pass data, and the developer X509 certificate who holds the signature key.

THE .PKPASS FILE

The .pkpass file can be transmitted to the iPhone by any means: download link (unique URL), attachment in an email, direct opening by an application installed on the smart-phone...

For this .pkpass file to be accepted by Apple Wallet, the RSA digital signature must be correct and the X509 certificate must prove that it has been generated by a developer authorized by Apple.

It is exactly the same principle as for the signature applications.

The signature of the .pkpass file uses the same mechanisms as the signature of the .ipk file of an application you want to distribute through the App Store.

WHAT IS THE DIFFERENCE BETWEEN AN NFC PASS AND A "NOT-NFC" PASS

What makes the difference between an NFC pass and a «not-NFC» pass is the content of the X509 certificate.
A pass signed by a standard developer certificate will only have access to the barcode function, but if the pass is signed by a developer certificate on which Apple has added the «NFC approved» extension, then the pass will be able to be transmitted to readers via NFC.
As Apple drastically limits the list of developers to whom it grants this precious sesame, it is usually necessary to go through a developer who already has it.

ZOOM on Google Smart Tap

The Smart Tap system is generally presented by Google as an extension of the Google Pay system for loyalty cards.

Technically, Smart Tap is able to do much more, by working with structured data models that allow the mobile to provide much more than a user ID, but it is nevertheless the basic usage (storing and transmitting a number, barcode) that is most common.

**GOOGLE SMART TAP INTEGRATES INTO THE EMV SPECIFICATIONS AS A VAS SERVICE.
HOWEVER, THERE ARE FOUR BIG DIFFERENCES:**
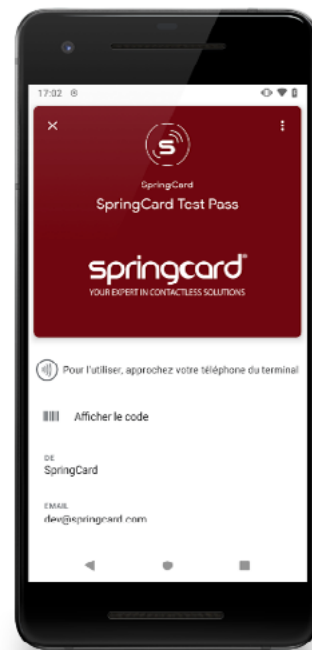
#1
The Google implementation is standards compliant and does not (ISO 7816-4 for APDU, ISO 14443 for transport) where Apple «invents» its ECP overlay to the ISO 14443 standard,

#2
Google's implementation follows the NFC Forum formalism, with evolving data structures and meta-data transmitted in the messages in addition to the payload data, where Apple chose to work with a static (and simplistic) data model,

#3
Google's implementation includes dynamic authentication which really helps to prevent replay attacks (but on the other hand requires the at the time of reading, while the Apple model allows to save the message model allows to save the message to decrypt it later,

#4
Google pass are not files that can be assembled if you know the format and have the right signature key; they are computer objects that can only be obtained through Google's cloud services.
The integrator who requests the generation of a pass only obtains a URL (on a Google server) to transmit to the user; this URL only «becomes» the pass when it is opened by a web browser or by the Google Pay application that is associated with the user's Google account.
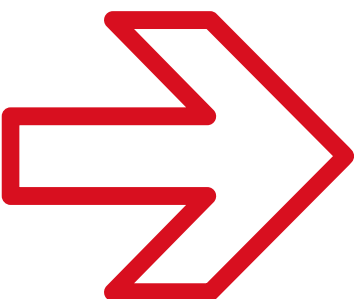
In some aspects, google smart tap is more complex to implement than Apple VAS, while in others it is much simpler. The following paragraphs will allow you to see the difference.

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Pass Google Smart Tap

A pass for Google Pay comes in the form of a URL starting with https://www.android.com/payapp/savetoandroidpay/ and then containing a unique token.

This URL can be transmitted to the Android mobile by any means: redirection in the mobile's web browser, link in an email, direct opening by an application installed on the smartphone...

In any case, the Google Pay application will be opened automatically by the Android system because it is configured to open all these types of URL.

If the URL is opened in a web browser there are two steps:

The user is prompted to sign in with their Google account (unless their account already has an active session in their browser, in which case they go directly to step 2).

The user is redirected to a page that offers to transfer the pass to the Google Pay application on their smartphone (in the same way as the Google Play Store website allows to install an application).

A few moments later, if the smartphone is connected to the network, it actually receives the pass through the push system.
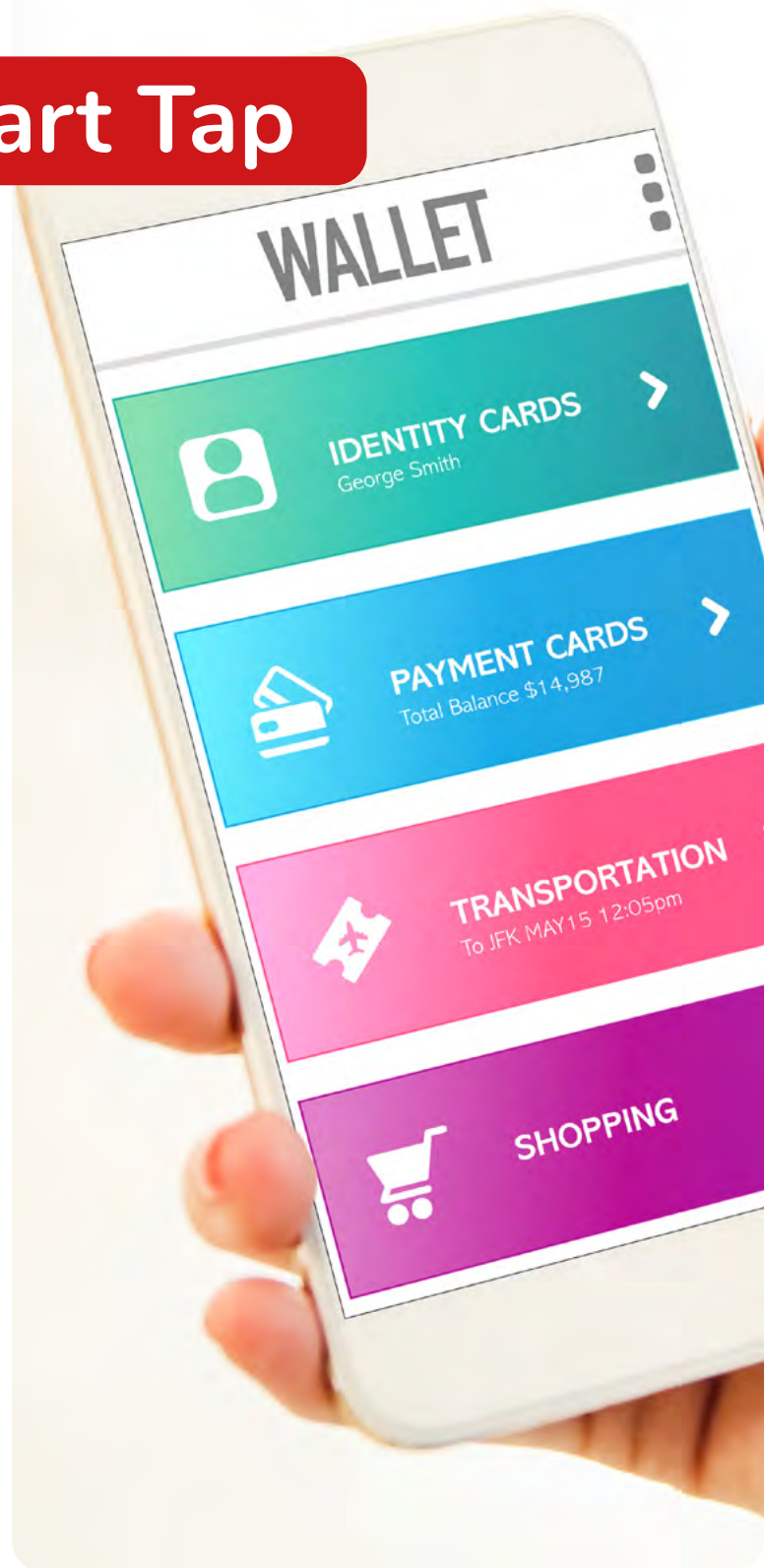
THE GOOGLE PASS CONTAINS AS APPLE :

#1 - The visual description of the pass (background color or image, logo, text, barcode),

#2 - The identifier of the organization holding the pass (CollectorId), the associated security key (ECC public key of the organization) and the data to be transmitted in NFC to the readers of this organization (the data is structured),

#3 - The list of available fields depends on the type of pass.

There is no digital signature available to the developer, since everything is controlled by Google services.

Pass transmission to the reader

The reader is configured to read data from one organization (or possibly a small number of organizations).

When the reader «sees» an Iphone or an Android it sends an APDU indicating the MerchantId of the of the organization to which it belongs.

If the smartphone has a pass for this organization, it will send the content
(the NFC message).

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DISCOVER HOW TO READ A PASS WITH A CONTACTLESS READER

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READING A PASS WITH A CONTACTLESS READER

#PLAYME

Pass advantages

WHY DEMATERIALIZE YOUR CARDS TO THE MOBILE WALLET PASS ?

#1 Anti-loss and easily identifiable in the wallet of your customers' smartphones
#2 Saves time on updates and reduces development costs
#3 Evolution and personalization of your CRM thanks to the update of the pass interface
#4 Sending information by notifications that are displayed on the locked screens of smartphones
#5 The pass is automatically issued and chosen among all other passes available in the wallet

>> E-TICKET MOBILE PASS >>

>> PROMO PUSH NOTIFICATION >>

>> DISCOUNT INFORMATION >>

USE OF THE MOBILE PASS IN A REAL USE CASE AS AN E-TICKET MOVIE AT OUR PARTNER PATHÉ GAUMONT

#PLAYME

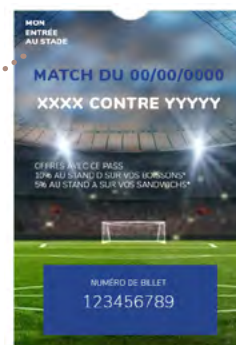# A multi-use pass distribution network

BOARDING CARD

GIFT CARD

MEMBER CARD

LOYALTY CARD

E-TICKET

9

Integrate pass into your business

SpringPass is the easiest way to digitalize your business;
your customers and prospects; thanks to the billion iPhone and Android users.

By transforming your loyalty programs, gift cards, offers, reservations
tickets, access cards (company, gym...).

SpringPass allows you to interact with your customers anywhere and anytime with
location-based notifications; with real-time updates and information.

You want to subscribe to SpringPass by SpringCard to develop your business?
Contact us and we will develop together your customized project.

SPRINGCARD SUPPORT YOU

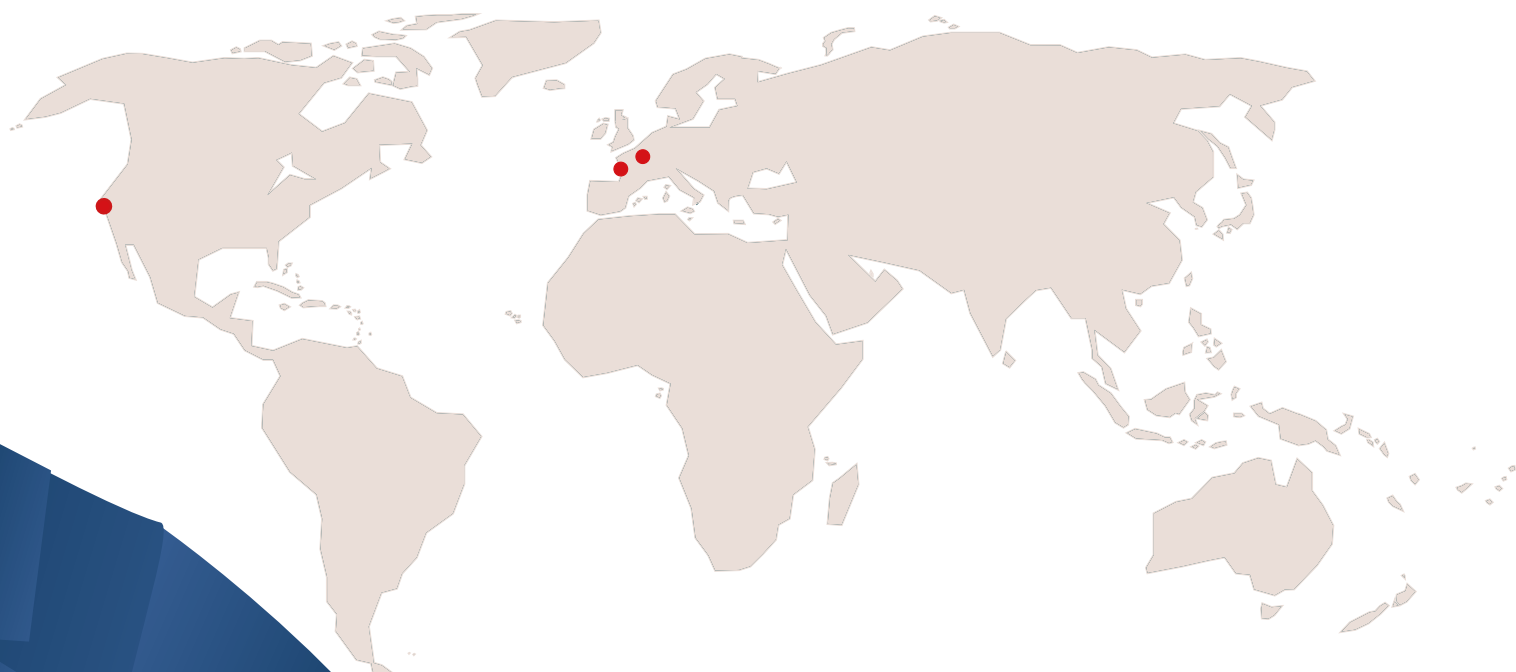**ARE YOU A DEVELOPER?**
RECEIVE OUR PROCESS AND API

DO YOU HAVE SOME QUESTIONS ?
WE ANSWER IT !

ABOUT SPRINGCARD

CONTACTLESS & 13.56MHZ RFID & NFC SOLUTIONS AND READERS

SpringCard is a company that designs and produces contactless readers by combining different technologies. With 20 years in the field experience in 13.56MHz systems, we offer you more than just technical skills.

PARIS (FR) - ANGERS (FR) - SAN DIEGO (USA)

www.springcard.com