

Gemalto position paper for W3C Web Payment workshop

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Introduction

Gemalto is a digital security company, rolling out financial services and payment solutions across the world. We have been investigating on the area of on line payment and more specifically web payment since few years now. In order to tackle the fragmentation of the end user devices, we have been experiencing payment performed on line from a PC or from a mobile device. The payment methods that we are supporting cover a wide range of scenarios:

- Web payment with the usage of the end-user banking card (namely card present transaction). The possible scenarios include the usage of a reader connected to the device or the leverage of the contactless technology, in order to allow the web site to interact with the banking card, et trigger the payment transaction.
- Mobile based payment, based on a mobile wallet, offering various payment methods with payment card details managed either on a secure element or on the cloud. Payment methods managed in that case can be related to a pre-paid payment account or debit card or direct debit, a credit transfert, including remittances. Those payments methods have use cases for person to person, person to business, person to a small business, person to government mobile or on-line payment.
- Mobile based payment, relying on MNO billing. In that specific case, the end user purchases good and when clicking on buying, he is billed on operator's billing.

In addition we have been analyzing the value of the couponing and ticketing in the end-user customer journey in those different scenarios. As such, we can share with the community some feedbacks on those situations where the user chooses a solution to pay some goods. This paper focuses on best practices allowing any payment solutions to be made available to the end-user.

Some assumptions, some open questions

With our experiments, we have been relying on the presence of a wallet. Provided that payment solutions are legion, and that competition should happen in this area, the wallet seemed to us a central piece for web payment success.

With respect to this idea of multiple payment means, it seems to us important to clarify that the security of the transactions will depend on the payment methods. One should assume that the payment method usage is the combination of choices i) from the merchant (accepting or not specific payment methods), and ii) from the end user (choosing in certain context specific payment methods). As such, the security of the transaction is not part of the expected standardization activities in W3C.

The following features have been identified by assuming that the environment of the end user would be made of:

- a web app or a web page offering goods to be purchased
- a wallet integrated on the device, which can be in form of a web app, or a native application
- the assumption that one wallet offers different payment methods
- the assumption that there can be one or several wallets on the device
- the principle that the user has to be in control of the wallet preferences and selection
- the principle of the end-user authentication is a generic concept, which is tight to payment method, as such a technical solution cannot be mandated by the standard

We have been trying different means for managing coupons, vouchers, basket description. Our finding is that this item has an interesting value for the actors of the payment chain and it is not clear who should be in control of those data. Nevertheless we believe it should be integrated in the web, as manageable pieces of data.

Some technical requirements

By cross checking our experiments when deploying solutions for such various scenarios on the web, we have been able to identify features that would be beneficial for the end user paying on the web, and for web application developers wishing to finalize end user payment. Those technical requirements can be expressed, depending if it relates to the web app or to the wallet.

Integrating payment methods in the web wallet

In case the wallet is web-based, the following capabilities may be useful to design adapted solutions:

- capability to send and receive SMS
- capability to manage personal information from the user, such as names and shipping address

- capability to maintain the information of user preferences taking into account the end-user purchasing context (for instance, payment method and favorite shipping address depending on the visited web page)
- means to add new payment method, delete payment method, ...
- capability to detect and access secure element or smart card for card present payment methods
- facilitate multiple authentication methods to address a large set of payment methods (oauth, msisdn based, emv authentication ...). Note that the authentication itself should not be standardized, but an abstraction of it would allow all business models to be deployed.
- Capabilities to manage coupon, voucher, receipt, loyalty identity, basket

Wallet and web app : design and interactions

In case the idea of a wallet is adopted by the industry, it seems that the following mechanisms would be mandatory, in order to allow web apps to actually use the wallet :

- a mechanism allowing web app to discover wallet(s) available on the device
- a mechanism allowing a web app to exchange data with a wallet
- a mechanism allowing a web app to receive coupons, voucher, basket from a wallet
- a mechanism allowing a user to set preferences in the wallet, to be reflected in the web app interaction (e.g. preferred payment methods is subscription billing, thus web app offers by default this payment method at next interaction)

Conclusion

In gemalto, we have experienced several methods to enable end user payment on the web. We believe that it is not the role of the W3C to force any payment methods, but rather to make sure that the all payment schemes will be seamlessly integrated by web developers (and chosen by end-user). As such we do recommend enabling features for a large variety of payment means (from card present to card-non present) and make sure they can be deployed on the web. We have provided here a list of required features for several scenarios and will be pleased to discuss it during the W3C Web Payment Workshop in Paris.