

The role of Web standards for enabling a level playing field for payment solutions

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Why?



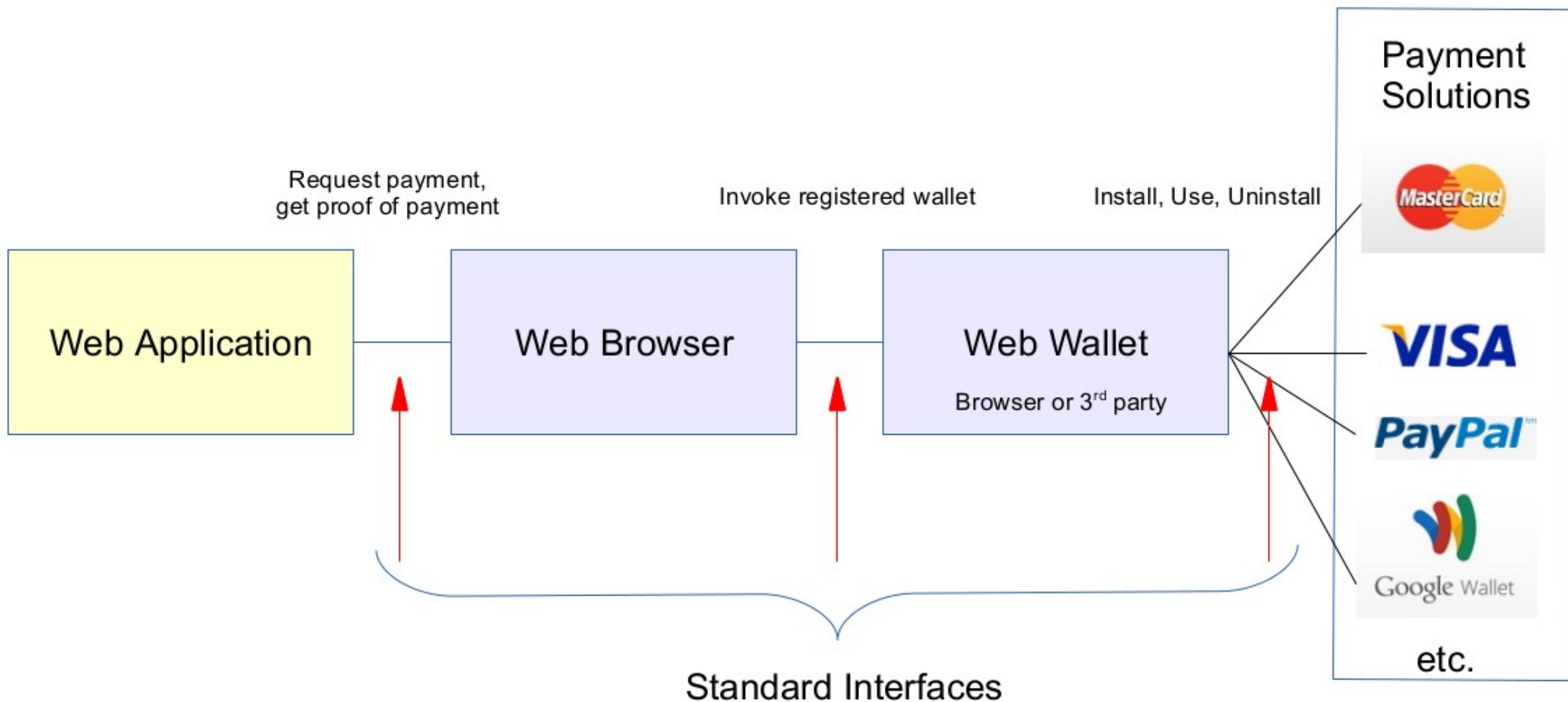
- Greater freedom for users in how they can pay
- Reduced effort on behalf of merchants and developers
- Improved user experience and reduced abandonment rates through instant gratification
- Open competition as basis for easier payments, reduced overheads, and value added services
- Moving away from cash based payments
 - Reducing the burden on merchants to hold cash
 - Easier payments and receipts, e.g. taxis, restaurants
- Easier person to person payments

Payment Front-End Process



- User clicks/taps “pay” button on web app
- Web app script invokes payment request API
- Browser routes this to the user's “wallets”
- Wallet checks which of user's payment solutions are applicable to this transaction
- User selects which payment solution she wants to use
- Wallet invokes selected payment solution
- Payment solution interacts with user as needed to authorise the payment
- Proof of purchase/Receipt passed back

Opportunities for standardization



Including Carrier billing and other approaches

Wallet and payment solutions can be locally installed or based in the cloud

Payment Request



- What information is needed from the web app?
 - The amount and currency
 - Description of what the payment is for as sufficient for a receipt
 - Human vs machine interpretable
 - What payment solutions the merchant accepts
 - And the associated details as needed for payments
 - The merchant's identity and the legal jurisdictions applicable to the transaction
 - Reference to contract?
 - User's identity can be provided by the wallet?
 - Delivery address for physical goods
 - As needed for DRM for virtual goods
- What's needed for 3rd party value-added services?
- What about escrow mechanisms?

Proof of payment/Receipt



- Who needs what?
 - Proof of payment for merchant to proceed with delivery of the product/service
 - Receipts for users
 - Held by wallet and available to trusted 3rd party services
 - Legal requirements
 - Taxation
 - Disputes
- Which is better?
 - Proof of payment passed to web app via wallet
 - Or it could be delivered direct to merchant

Improving the User Experience

- Poor User experience increases abandonment rate
- How can we reduce the effort needed from users?
 - Fewer steps and minimal data entry
 - Commensurate with the risk model as understood by a payment solution
- Wallet shouldn't show payment solutions that can't match the merchant's requirements
 - e.g. don't show AMEX if merchants won't accept it
 - List of names for accepted payment solutions
 - Bridging the gap between users and merchants
 - There should be sufficient funds to cover the payment
- Users will want to see
 - How much funds are currently available for each payment solution
 - The transaction surcharge they would incur for each payment solution

Enabling Competition



- The importance of a level playing field
 - Standards should be unbiased, what does this imply?
 - Effective competition as key to improving user experience, richer features and reduced overheads
- Open market for wallets and payment solutions
 - User's should be able to install and un-install these!
 - Standard should allow locally installed or cloud based wallets and payment solutions, right?
- We increasingly have many personal devices
 - Users will want consistency across devices
 - A shared wallet across my devices?
- What about offline payments?

Suite of Standards



- Payment solution providers have their own approaches to managing risk
 - Standards need to provide building blocks rather than forcing a one size fits all approach
 - New APIs for trusted web applications
- Moving away from user name and password
 - User authenticates to device, device to payment solution provider
 - Device or trusted identity provider?
 - Role for secure elements and 2nd factors
 - Issue of who controls the secure element!
 - Revocation of credentials when device is lost, stolen, broken, discarded, or on a change of owner
 - Strong identity as basis for trust (privacy friendly KYC)
- Related technologies
 - Bluetooth beacons, NFC and barcodes

Loyalty Schemes?



- Leather wallet stuffed full with discount coupons clipped from newspapers and junk mail
- Does this model still hold for web payments?
 - Merchants want to know how their customers came to know about them
 - Search engine, link from another website, social or physical media, or plain old word of mouth
 - Encouraging repeat customers
 - Save as you go schemes across a group of participating companies, e.g. UK's Nectar loyalty card
- Is there a role for the wallet to manage discount coupons and prepaid vouchers?