

Payment Request API

Ian Jacobs, 16 Feb 2017

Background

- Goal: Make checkout easier and more secure
- April 2016: PING discussion (slides)
- January 2017: Request to review specifications approaching Candidate Recommendation
- 16 February 2017: Second discussion with PING

Example: pay.gov

Bighorn Canyon NRA Annual Pass

Before You Begin

1 Complete Agency Form

2 Enter Payment Info

3 Review & Submit

4 Confirmation

Paying online with Pay.gov is safe, secure, and the preferred method to make a payment. To make a payment using one of the below accepted payment methods, please click the Continue to the Form button.

Accepted Payment Methods:

- ▶ Bank account (ACH)
- ▶ Amazon account
- ▶ Dwolla account
- ▶ PayPal account
- ▶ Debit or credit card

Preview Form

[Cancel](#)

Continue to the Form

This is a secure service provided by United States Department of the Treasury. The information you will enter will remain private. [Please review our privacy policy](#) for more information.

Selection of payment method

Bighorn Canyon NRA Annual Pass

Before You Begin

1 Complete Agency Form

2 Enter Payment Info

3 Review & Submit

4 Confirmation

Payment Information

Payment Amount: \$30.00

* I want to pay with my:

- ☐ Bank account (ACH)
- ☐ Amazon account
- ☐ Dwolla account
- ☐ PayPal account
- ☐ Debit or credit card

Previous

Return to Form

[Cancel](#)

Next

Card Payment

Bighorn Canyon NRA Annual Pass

Before You Begin

1 Complete Agency Form

2 Enter Payment Info

3 Review & Submit

4 Confirmation

Please provide the payment information below. Required fields are marked with an *.

* **Payment Amount:**

\$30.00

* **Cardholder Name**

Ian Jacobs

* **Cardholder Billing Address:**

1600 Pennsylvania Ave NW

...more data required...

ACH Payment

* Select Account Type



routing and
transit #

checking
account #

check #



check #

routing and
transit #

checking
account #

* Routing Number

* Account Number

* Confirm Account Number

[Previous](#)[Return to Form](#)[Cancel](#)[Review and Submit Payment](#)

...more data required...

A scenic landscape at sunrise or sunset. The sun is low on the horizon, casting a warm, golden glow over the scene. In the foreground, a dirt path leads from the bottom right towards the center. The path is surrounded by dry grass, shrubs, and small purple flowers. In the middle ground, there's a valley with a river or stream, and a few trees on the right. The background shows rolling hills and a forested ridge under a hazy sky.

Payment on pay.gov
tomorrow

1) Choose passes



Bighorn Canyon National Recreation Area

Purchase an annual park pass

Number of passes:

1
2
3

Buy

Total: USD \$30

2) Choose app and pay



Make a payment to pay.gov

Order summary

1 Annual Pass for Bighorn Natl Rec Area USD \$30

Shipping

Name, 1600 Pennsylvania Ave, ...

Contact

me@example.com

Pay with

Card ***4231



PayPal



Pay

Before a Transaction

- Merchants build checkout with API
 - They declare accepted payment methods
- Users install payment apps
 - Payment Apps declare supported payment methods to browser at registration

Payment Methods Are Data

- Each payment method defined by:
 - Identifier (used for matching by browser or other user agent)
 - Data provided by merchant to payment app (through user agent)
 - Data returned by payment app to merchant (through user agent)
- Example: “basic-card”
 - No data necessary from merchant
 - Payment app returns card number, expiry, name on card, etc.

During a Transaction

- The payer pushes the "buy" button, invoking the API with transaction information and accepted payment methods.
- Browser computes intersection of “what merchant accepts” and “what user’s payment apps support”
- Browser displays matching apps in native browser chrome.
- User selects one to pay, the user agent provides transaction data to payment app and delegates control.
- User interacts with payment app (e.g., authenticating) until done.
- Upon completion, payment app communicates response data to browser, hands control back.
- Browser returns response data to merchant.

Spec Status

- Rec-track Near Candidate Recommendation:

- Payment Request API
- Payment Method Identifiers

- Mature Payment Method Note

- Basic Card Payment

- Not yet FPWD

- Payment App API
- Basic Credit Transfer Payment
- Tokenized Card Payment

Implementation Status

- Payment Request API
 - Google, Microsoft, Mozilla, Samsung, Facebook, Opera
- Payment Apps
 - Experimentation with payment app integration underway, including Alipay, Samsung, Google, Amex, Facebook, Worldpay, Stripe, Klarna, Gemalto, Opera, and others

Privacy Design Goals

- The API is designed so that only the information necessary for a given party to fulfill its role is available to that party.
- The API may increase user privacy because it is more likely that only necessary information will be sent to the merchant, rather than the merchant collecting additional information via a traditional payment form.

User Consent Requirements

- Users must consent to:
 - Make a payment
 - Allow the user agent to share information about the user with the merchant Web page.
 - Provide credentials to a payment app
 - Register a payment app
 - Permit a payment app to return information to the merchant

More Privacy Topics

- Payment methods
 - canMakePayment() method enables merchant to fine-tune user experience; seeking a balance with user privacy
- Payment apps
 - A payment app does know about a transaction until user selects it.
- paymentRequestID
 - Unique identifier per transaction for reconciliation (e.g., push payments)

Next Steps

- We welcome PING's specification review
- 23-24 March: WPWG FTF meeting
 - We will attempt to see whether we have consensus to advance Payment Request API to CR once we have fulfilled process requirements.