



# PayPal: New Solutions for Java Developers

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PayPal Developer Program

[www.paypal.com/developer](http://www.paypal.com/developer)

Session TS-8976

# Goal of Today's Session

Show you how to **make more money**  
with PayPal's digital money platform

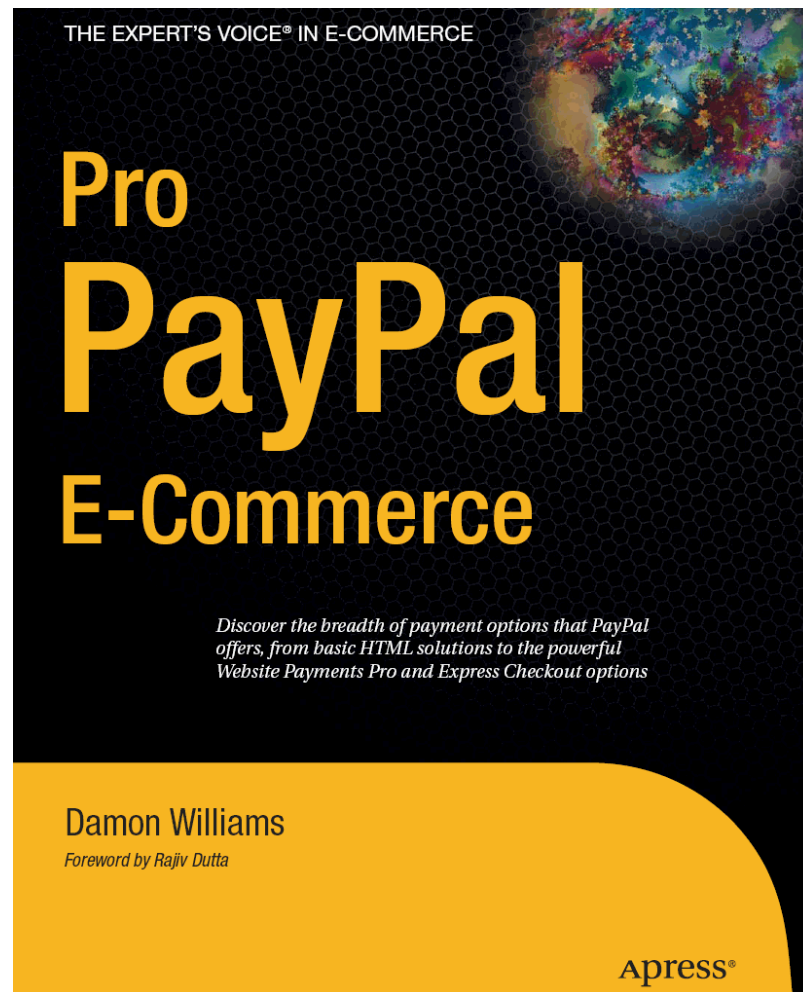
# About Me

Damon Williams

Author, *Pro PayPal  
E-Commerce*

Manager, PayPal  
Developer Program

Sun Certified Java™  
Technology Developer



# Agenda

PayPal Vitals

Optimizing Your Checkout

PayPal's Digital Money Platform

Coding With the New NVP API

New APIs for Mobile

Developer Resources

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## PayPal Vitals

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# How PayPal Works



## Buyer Funding Source

- Credit plus debit cards



- **PayPal**® account
- Bank transfer/ACH
- PayPal Buyer Credit



## Merchant Withdrawal Method

- **PayPal**® account
- Bank withdrawal
- ATM/debit card
- Physical check

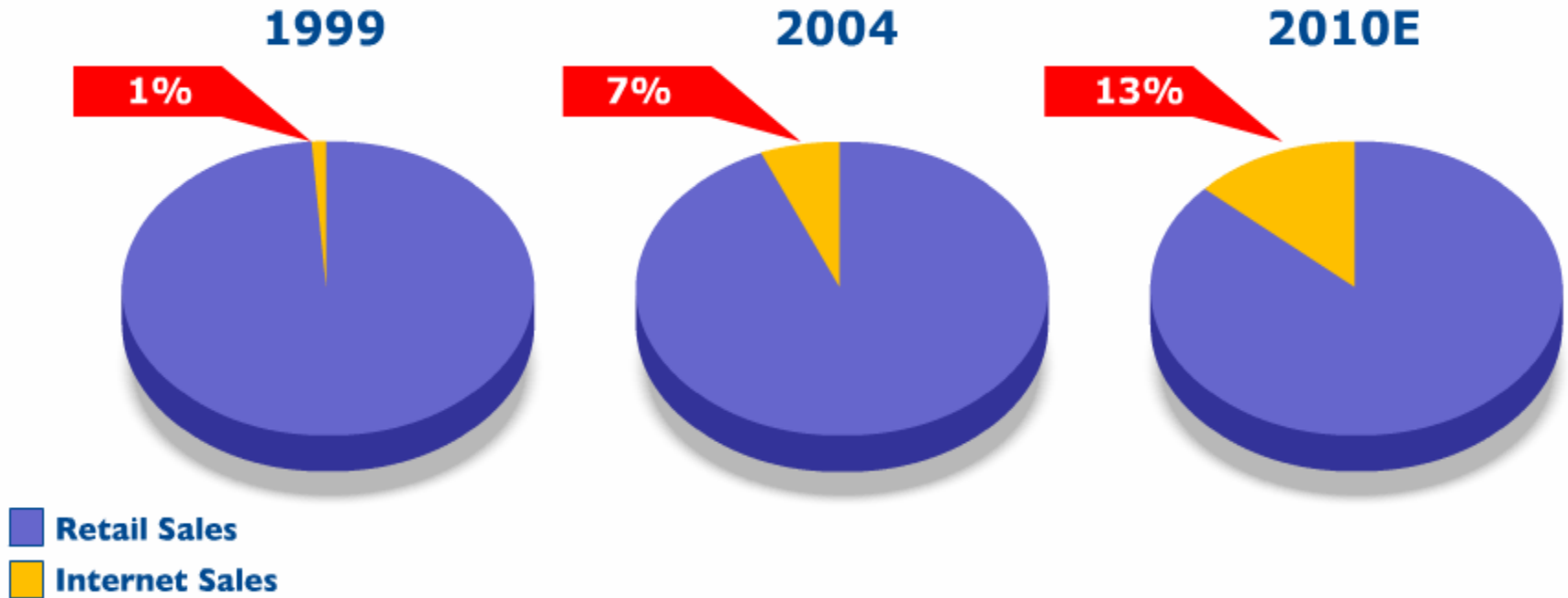
# PayPal Vitals

Here are some facts

- Founded in 1998
- 143+ million accounts
- 103 countries, 17 currencies
- 2006 payment volume > \$37.8 billion
- Q1: \$11 billion in transaction volume
- Q1: \$1,461 transacted per **second**

# E-Commerce Is Growing

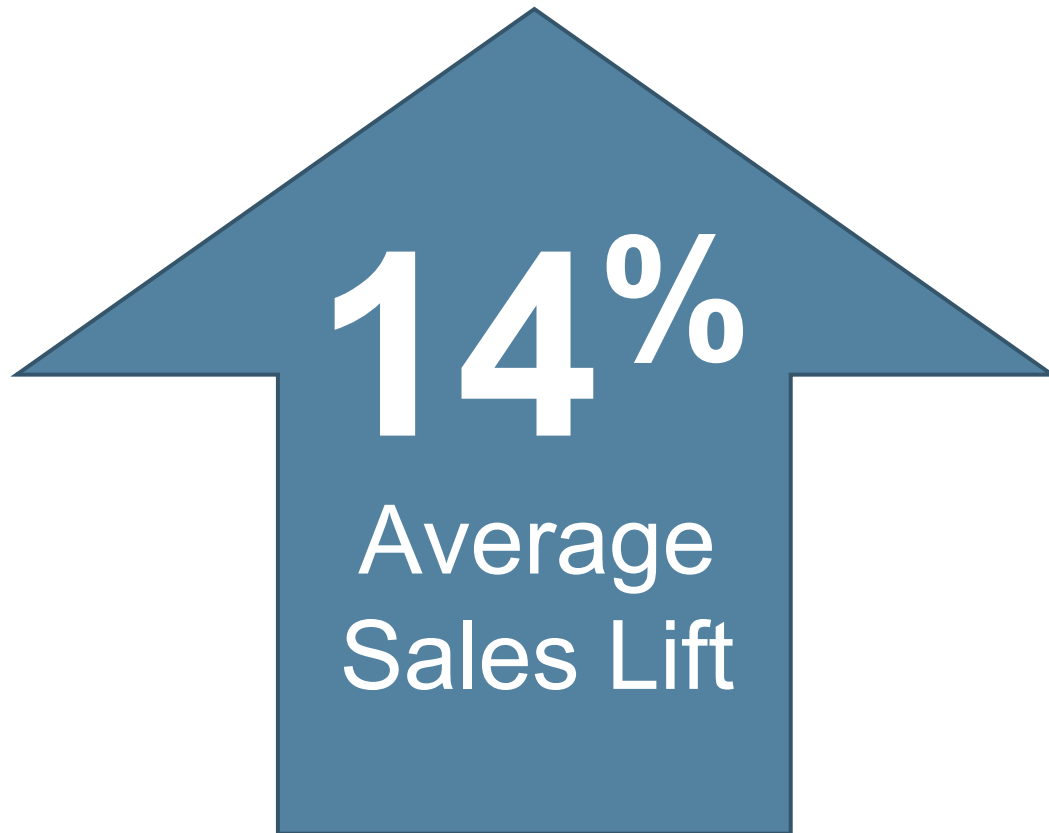
Why you should care





# Helps Businesses Grow

Why you should care



# Agenda

PayPal Vitals

**Optimizing Your Checkout**

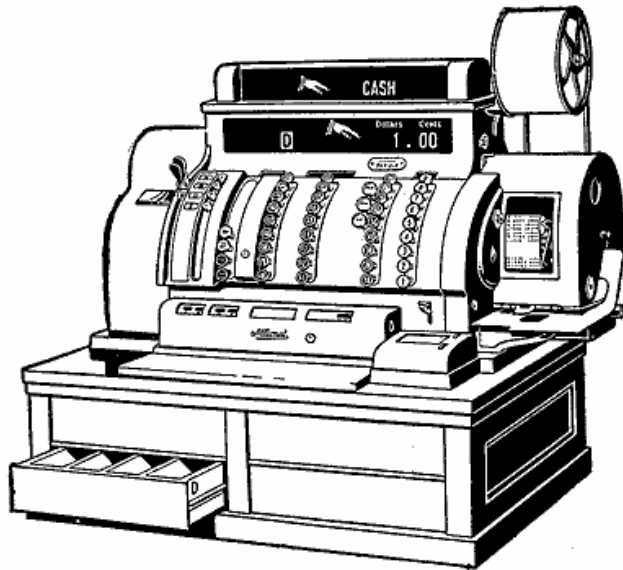
PayPal's Digital Money Platform

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# Checkout on the Web...



...stinks!



## Order Confirmation



[About SSL Certificates](#)

Step 1: Review your purchases.  
Step 2: Enter your shipping and credit card billing address.  
Step 3: Select shipping method & enter payment information.  
**Step 4: Confirm your order.**

Description	Qty	Unit	Price
Eureka!® Copper Canyon 10x10' Cabin Tent with Eureka!® Mail-in Bonus Sleeping Bag Product: DODX-118407 In Stock.	1	\$149.97	\$149.97
<b>Merchandise Total</b>			<b>\$149.97</b>
<b>Shipping Method</b>			<b>Ground</b>
<b>Shipping and Handling</b>			<b>\$15.99</b>
<b>Package Protection</b>			<b>\$0.99</b>
<b>Grand Total</b>			<b>\$166.95</b>

If you want to place this order, click "Submit Order." It may take a few seconds to process.  
Thank you for your patience.

Not Yet Submit Order

**Order securely online**  
or call 1-800-882-2962.

\* Card Number:   
\* Expiration Date: Month  Year   
Go To Step 4 for Final Order Review and to Submit Order >>

ONLINE Now!  
Super Knife™ UltraShear  
WARNING: You must be 18 or older to purchase this product.

## Don't

- Offer just one form of payment
- Require a store account
- Require billing/shipping info before offering alternate checkout (e.g., PayPal)

## Do

- Offer multiple payment choices
- Save store account creation until after the sale is complete
- Offer checkout shortcut on shopping cart landing page
- “A/B testing” for multiple checkout page options

# Adding **PayPal** Checkout...

**NEW!**

Now Accepting **PayPal**


To order by phone  
**FTD.com 1800 SEND FTD**

Customer Service  
My Account  
Shopping Cart


**HACKER SAFE**  
TESTED 25-APR

Mother's Day
Birthday
Anniversary
Get Well
Sympathy

Product Search

Shopping Cart

1 Shopping Cart
2 Delivery
3 Billing & Review




OR

Back to The FTD® Timeless Elegance™ Bouquet

(1) item has been deleted from your cart - Your cart contains (1) item

Item being sent to TX 75044

Item Image, Name and Number	Price (before fees & taxes)	Delivery Options	Remove Item
 <b>The FTD® Timeless Elegance™ Bouquet</b> Item # 07-M3	<input checked="" type="radio"/> \$54.99 - Shown <input type="radio"/> \$64.99 - Deluxe <input type="radio"/> \$74.99 - Premium	This will be delivered to TX 75044 via FTD® Florist on Thu. April 26, 2007	<input type="button" value="Remove this item"/>

Add a little something special to this gift


**Balloon \$5.00**


**Bear \$10.00**


**Chocolate \$15.00**

Add a Full-Sized Greeting Card - \$3.50
Your gift comes with a FREE enclosure card.

Note: Products shown are for illustration purposes only. Actual product may differ than product images displayed.

Back to The FTD® Timeless Elegance™ Bouquet

OR

Shopping Cart Subtotal in US Dollars  
(before shipping/service fees & taxes)

**\$54.99**

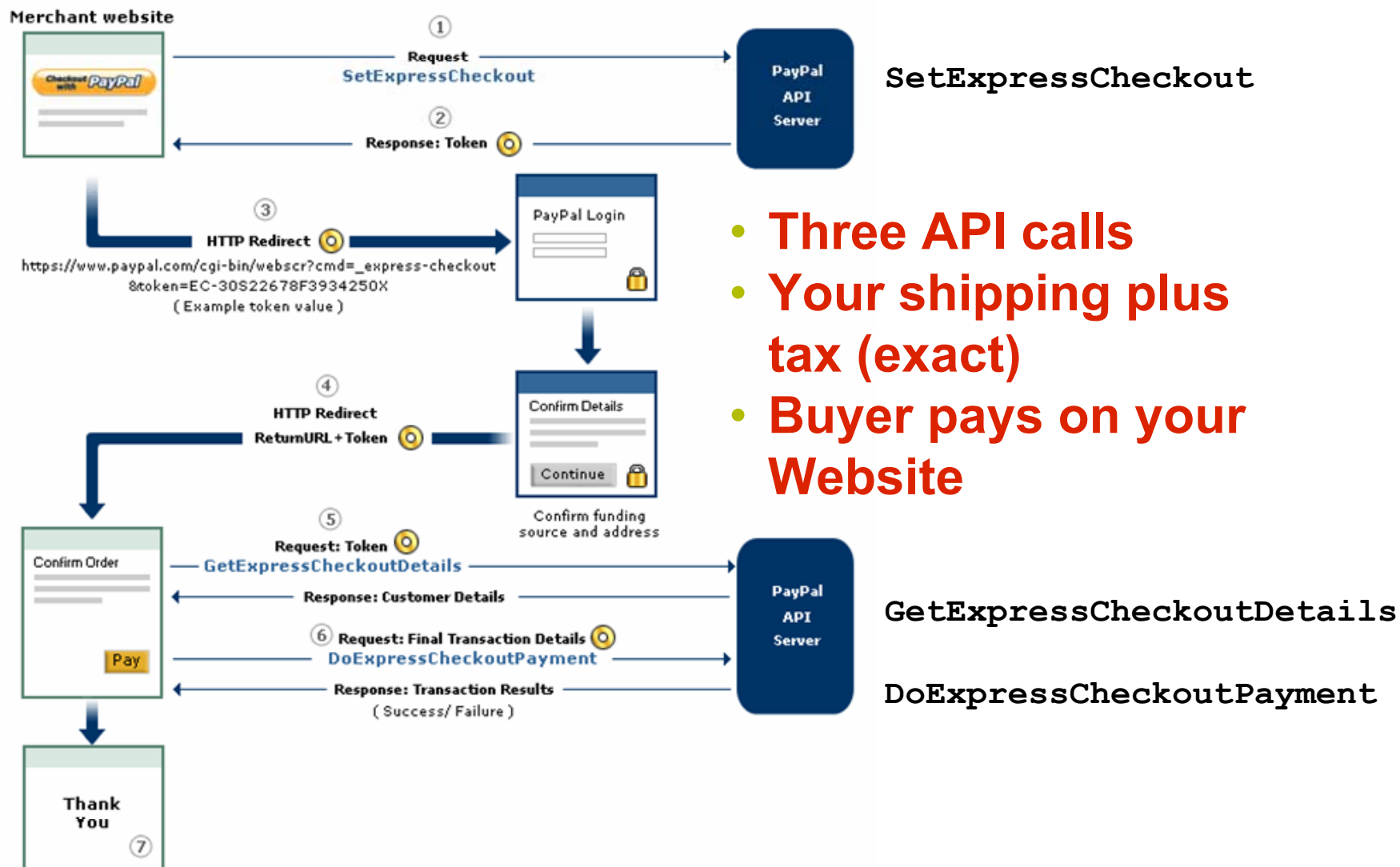
...**Will** Increase Conversion

# Standard Checkout (Simple But Limited)

```
<form action="https://www.paypal.com/cgi-bin/webscr"
method="post">
  <input type="hidden" name="cmd" value="_cart">
  <input type="hidden" name="upload" value="1">
  <input type="hidden" name="business"
value="your@business.com">
  <input type="hidden" name="item_name_1" value="Item Name 1">
  <input type="hidden" name="amount_1" value="1.00">
  <input type="hidden" name="item_name_2" value="Item Name 2">
  <input type="hidden" name="amount_2" value="2.00">
  <input type="submit" value="PayPal">
</form>
```

- **HTML-based**
- **Limited shipping plus tax calculations**
- **Buyer pays on PayPal.com**

# Express Checkout



- Three API calls
- Your shipping plus tax (exact)
- Buyer pays on your Website



# API 1/3: SetExpressCheckout

## Key Parameters of *SetExpressCheckout Request*

Parameter	Required	Details
AMT (OrderTotal)	Yes	Estimated amount of the transaction
RETURNURL	Yes	URL that user will be sent to when returning from PayPal
CANCELURL	Yes	URL that user is sent to when he wants to return to merchant
HDRIMG	No	URL for merchant logo
CUSTOM	No	Pass-through variable for merchant reconciliation
SHIPTONAME SHIPTOSTREET SHIPTOSTREET2 SHIPTOCITY SHIPTOZIP SHIPTOCOUNTRYCODE SHIPTOCOUNTRYNAME PHONENUM	No	Buyer address information to be pre-filled by PayPal

# API 1/3: SetExpressCheckout

## Key Parameters of *SetExpressCheckout Response*

### Parameter

### Details

Token

Identifier of this transaction with a time stamp;  
Valid for 3 hours

Redirect user to PayPal Website using the PayPal URL and your token

[https://paypal.com/cgi-bin/webscr?cmd=\\_express-checkout&token=token\\_value](https://paypal.com/cgi-bin/webscr?cmd=_express-checkout&token=token_value)

# Express Checkout (1/3)

```
SetExpressCheckoutRequestType setRequest = new SetExpressCheckoutRequestType();
SetExpressCheckoutRequestDetailsType setDetails = new
SetExpressCheckoutRequestDetailsType();

// DEFINE SOME BASIC CHECKOUT PARAMETERS
setDetails.setReturnURL("http://www.yourwebsite.com/confirm.jsp");
setDetails.setCancelURL("http://www.yourwebsite.com");
setDetails.setPaymentAction(PaymentActionCodeType.Sale);
setDetails.setOrderDescription(description);

// SET THE ORDER AMOUNT
BasicAmountType amount = new BasicAmountType();
amount.setCurrencyID(CurrencyCodeType.USD);
amount.set_value("99.99");
setDetails.setOrderTotal(amount);
setRequest.setSetExpressCheckoutRequestDetails(setDetails);
SetExpressCheckoutResponseType setResponse =
(SetExpressCheckoutResponseType) caller.call("SetExpressCheckout", setRequest);

// REDIRECT THE CUSTOMER TO PAYPAL'S WEBSITE FOR AUTHENTICATION
String token = setResponse.getToken();
response.sendRedirect("https://www.paypal.com/cgi-bin/webscr?cmd=_express-
checkout&token="+token);
```

# API 2/3:

## GetExpressCheckoutDetails

1. PayPal redirects user to Return URL or Cancel URL and appends token
  - [https://www.yourwebsite.com/return?token=your\\_token](https://www.yourwebsite.com/return?token=your_token)
  - Or
  - [https://www.yourwebsite.com/return?cartid=1234&token=your\\_token](https://www.yourwebsite.com/return?cartid=1234&token=your_token)

2. Merchant sends **GetExpressCheckoutDetailsRequest**

Parameter	Required	Details
AMT (OrderTotal)	Yes	Token number

3. PayPal returns **GetExpressCheckoutDetailsResponse**

Parameter	Details
E-mail	Customer's e-mail
PayerID	Customer's identifier
First Name, Last Name	Customer's name
SHIPTONAME, SHIPTOSTREET, SHIPTOSTREET2, SHIPTOCITY, SHIPTOZIP, SHIPTOCOUNTRYCODE, SHIPTOCOUNTRYNAME, PHONENUM	Customer shipping address selected at PayPal If Address override was used, this is the original address

# Express Checkout (2/3)

```
GetExpressCheckoutDetailsRequestType getRequest = new
GetExpressCheckoutDetailsRequestType();

// GET THE SESSION TOKEN FROM THE HTTP REQUEST
getRequest.setToken("YourTokenValue");

// MAKE THE API CALL TO GET BUYER DETAILS
GetExpressCheckoutDetailsResponseType getResponse =
(GetExpressCheckoutDetailsResponseType) caller.call("GetExpressCheckoutDetails",
getRequest);

// EXTRACT SOME DATA ABOUT THE BUYER
GetExpressCheckoutDetailsResponseDetailsType details =
getResponse.getGetExpressCheckoutDetailsResponseDetails();

String total = details.getCustom();
PayerInfoType payer = details.getPayerInfo();
String payerID = payer.getPayerID();
PersonNameType name = payer.getPayerName();
AddressType address = payer.getAddress();
```

# API (3/3): DoExpressCheckoutPayment

Key Parameters of *DoExpressCheckoutPaymentRequest*

Parameter	Required	Details
AMT (OrderTotal)	Yes	Final transaction amount
ITEMAMT SHIPPINGAMT HANDLINGAMT TAXAMT	Yes	Information on how the final amount is split
Token	Yes	Customer identifier
PayerID	Yes	Customer identifier
L_NAME <sub>n</sub> L_NUMBER <sub>n</sub> L_AMT <sub>n</sub> L_TAXAMT <sub>n</sub>	No	Individual sums for different items (will be shown in transaction details for user)
DESC	No	Description that is shown to the user in transaction details
SHIPTOADDRESS SHIPTOADDRESS2 SHIPTOCITY SHIPTOZIP SHIPTOSTATE SHIPTOCOUNTRYCODE SHIPTOCOUNTRYNAME	No	Shipping address if that was entered by the user on the merchant page

# Express Checkout (3/3)

```
DoExpressCheckoutPaymentRequestType doRequest = new
    DoExpressCheckoutPaymentRequestType();
DoExpressCheckoutPaymentRequestDetailsType doDetails = new
    DoExpressCheckoutPaymentRequestDetailsType();

// SET DETAILS ABOUT THE FINAL TRANSACTION AMOUNT
doDetails.setPayerID(request.getParameter("payerID"));
doDetails.setPaymentAction(PaymentActionCodeType.Sale);
doDetails.setToken(token);
PaymentDetailsType paymentDetails = new PaymentDetailsType();
BasicAmountType amount = new BasicAmountType();
amount.setCurrencyID(CurrencyCodeType.USD);
amount.set_value("105.00");
paymentDetails.setOrderTotal(amount);

doRequest.setDoExpressCheckoutPaymentRequestDetails(doDetails);
DoExpressCheckoutPaymentResponseType doResponse =
    (DoExpressCheckoutPaymentResponseType) caller.call("DoExpressCheckoutPayment",
doRequest);
DoExpressCheckoutPaymentResponseDetailsType details =
    doResponse.getDoExpressCheckoutPaymentResponseDetails();

if (doResponse.getAck() == AckCodeType.Success) {
    // TRANSACTION WAS SUCCESSFUL!!
}
```

# Yahoo! PayPal Checkout Program

- paypal.com/yahoosearch
- Free PayPal processing through 2007
- \$100 credit for Yahoo! Sponsored Search
- Icon in Yahoo! Sponsored Search Results





# Agenda

PayPal Vitals

Optimizing Your Checkout

**PayPal's Digital Money Platform**

Coding With the New NVP API

New APIs for Mobile

Developer Resources

# Digital Money Platform

- “Think outside the shopping cart”
- Opportunities for innovation
- Vertical applications

# Digital Money Platform

## PayPal API: 16 Public Operations

- Receive payments (Express Checkout)
- Send money (MassPay)
- Issue refunds
- Search transactions
- Get balance
- Authorize/capture/void payments
- Recurring payments (**coming soon!**)

First you must acquire a set of **API credentials**

- API Username
- API Password
- API Signature (string) or API Certificate (file)

# Using the PayPal API

## Two Ways to Connect

### 1. SOAP (Web services)

- Traditional method
  - Object-oriented request/response
- Java SDK wraps Axis
  - More complex development

### 2. Name-Value Pair **(NEW!)**

- Launched in February
- REST-ful
- Works over simple HTTP FORM posts
- “Flat” API—No objects
- SDKs provided, but not needed

## MSR Captures Transaction Info



# Virtuous Cycle

## MSR Sends Invitation to Buyer

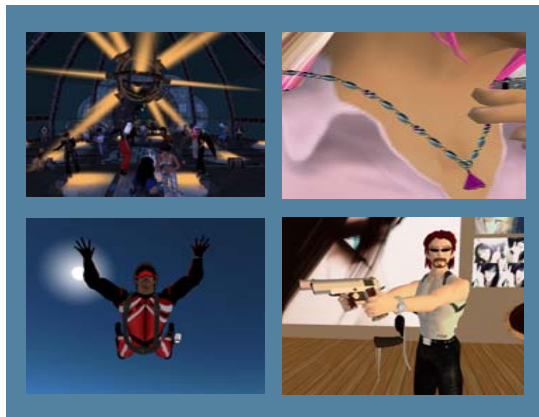
## MSR Issues

### Cash Back Reward (Multiple Currencies!)

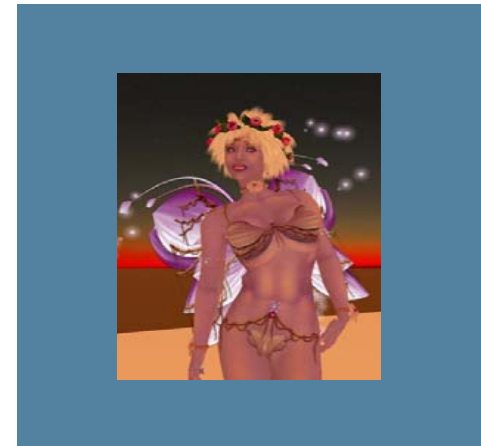
## Custom Opt-In E-mails Drive Repeat Sales

**MyStoreRewards**  
The simplest rewards program on earth.

# SecondLife



**Producers Create  
Content**



**Residents Purchase  
Goods/Services**

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# Code Sample: Process Credit Card

```
public void processCreditCard() throws Exception {  
    NVPEncoder encoder = new NVPEncoder();  
    encoder.add("METHOD", "DoDirectPayment");  
    encoder.add("PAYMENTACTION", "Sale");  
    encoder.add("AMT", "50.00");  
    encoder.add("CREDITCARDTYPE", "Visa");  
    encoder.add("ACCT", "4755941616268045");  
    encoder.add("EXPDATE", "2009-10-02");  
    encoder.add("CVV2", "234");  
    encoder.add("FIRSTNAME", "Bob");  
    encoder.add("LASTNAME", "Smith");  
    encoder.add("STREET", "1234 Main Street");  
    encoder.add("CITY", "San Francisco");  
    encoder.add("STATE", "CA");  
    encoder.add("ZIP", "94134");  
    encoder.add("COUNTRYCODE", "US");  
    encoder.add("CURRENCYCODE", "USD");  
    String nvpString = encoder.encode();  
}
```



# Code Sample: Process Credit Card

```
String ppresponse = call(nvpString);
NVPDecoder results = new NVPDecoder();
results.decode(ppresponse);
String transactionId = results.get("TRANSACTIONID");
if ("Success".equals(results.get("ACK"))) {
    System.out.println("DoDirectPayment API call
    completed successfully");
    System.out.println("TransactionID = " +
    transactionId);
} else {
    showErrors(results);
}
}
```

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# PayPal Mobile

**Launched in 2006**

Send Money

Text to Buy

Text to Give



# Text to Buy

PROMOTION

## BUY IT NOW!

### The LUCKY Mix CD



**FEATURING:**  
Bent  
Brazilian Girls  
Cuban Project  
Joe Gaswell  
Loop  
Miguel Migs  
Mr. Scruff  
Thievery Corporation  
and more!

**Featuring an unreleased track from Brazilian Girls!**

**BUY YOURS NOW!**  
Text LUCKYCD to 40543  
**ONLY \$5.99**  
TAX & SHIPPING INCLUDED

The soundtrack to shopping is here! The LUCKY Mix CD features the perfect blend of stylish songs — from jazz classics remixed by the world's most pioneering DJs to remarkably chic original tracks.

Buy The LUCKY Mix CD right now, right from your cell phone. Simply text LUCKYCD to 40543. It's easy!

Find out more at [lucky promo.com/lucky cd](http://lucky promo.com/lucky cd)

**HOW TO TEXT 2BUY**

- 1 Log on to PayPal.com/mobile to create an account or "mobile activate" your existing PayPal account.
- 2 Then text the product code to the number shown.
- 3 An automated call will ask your PIN number, and confirm the order. A receipt will be e-mailed to you.
- 4 The item is shipped directly to your specified address.

**PayPal** > Shopping just got a lot easier. PayPal's new Text2Buy program enables anyone with an e-mail address and a mobile phone to securely, easily, and quickly send and receive payments right from their cell phone. Make purchases using money in your PayPal account, your bank account or on your credit card. Go to PayPal.com/mobile for more information and to "mobile activate" your account. Questions? E-mail [promotions@paypal.com](mailto:promotions@paypal.com) or go to [PayPal.com/help](http://PayPal.com/help).

Promotion

## LUCKY goes mobile!

# LIVE BUY IT

### LOVE IT. TEXT IT. BUY IT. NOW.

Getting what you want just got easier! Turn the page for all our fall favorites, then simply log on to [LiveBuyIt.com](http://LiveBuyIt.com) or send a text message from your mobile phone to purchase!



**HOW TO TEXT 2BUY**

- 1 Look for the "Text2Buy" icon for the product you want.
- 2 Then log on to PayPal.com to "mobile activate" your account.
- 3 Text the product code to the number shown.
- 4 An automated call will ask your PIN number, and confirm the order. A receipt will be e-mailed to you.
- 5 The item is shipped directly to your home address.

**PayPal** > Get hooked on PayPal's Text2Buy, so when you see mobile devices with an e-mail address and a mobile phone — as shopping easily and securely send and receive payments. You can buy things with PayPal using money in your PayPal account, your bank account or your credit card. It's like having your own online wallet with you just for cash. Questions? Go to [PayPal.com/mobile](http://PayPal.com/mobile) or e-mail [promotions@paypal.com](mailto:promotions@paypal.com).

Lucky  
Cosmogirl

# Text to Give

The latest breakthrough in pediatric medicine may not have much to do with science at all.

starlight ★ starbright™  
children's foundation  
where fun shines™



Help a sick child smile.  
800-315-2580 ★ starlight.org

TEXT 2GIVE Donate \$10 Today!  
Text STAR10 to 78787

PEANUTS © United Feature Syndicate, Inc.

Starlight Starbright  
Music

A complete education includes music education.

The VH1 Save The Music Foundation is a non-profit organization dedicated to restoring instrumental music programs in U.S. public schools. Since 1997, the Foundation has provided more than \$30 million worth of instruments to over 1,200 schools in 80 communities around the country, affecting the lives of more than 750,000 children.

Help support the VH1 Save The Music Foundation's efforts to restore public school music programs by using your mobile phone to make a donation.  
Text STM to 78787.

PayPal's Text 2 Give is a new, fun and secure way to make donations using your cell phone.  
For details, visit [www.paypal.com/mobile](http://www.paypal.com/mobile)

TEXT 2GIVE powered by Digital  
VH1 SAVE THE MUSIC FOUNDATION

For more information on the VH1 Save The Music Foundation, and to find out how you can help put instruments directly in the hands of our nation's public school students, visit [www.vh1save themusic.com](http://www.vh1save themusic.com)

vh1 Save the

# Mobile **WAP 2.0** Checkout

- Coming soon!
- API-based solution
- Sell directly on any compatible mobile device
- Actual checkout flow, not text messaging





# DEMO

PayPal Mobile Checkout





# Mobile WAP Checkout



1

2

3

4



# Mobile WAP Checkout



1

2

3

4

# Mobile WAP Checkout



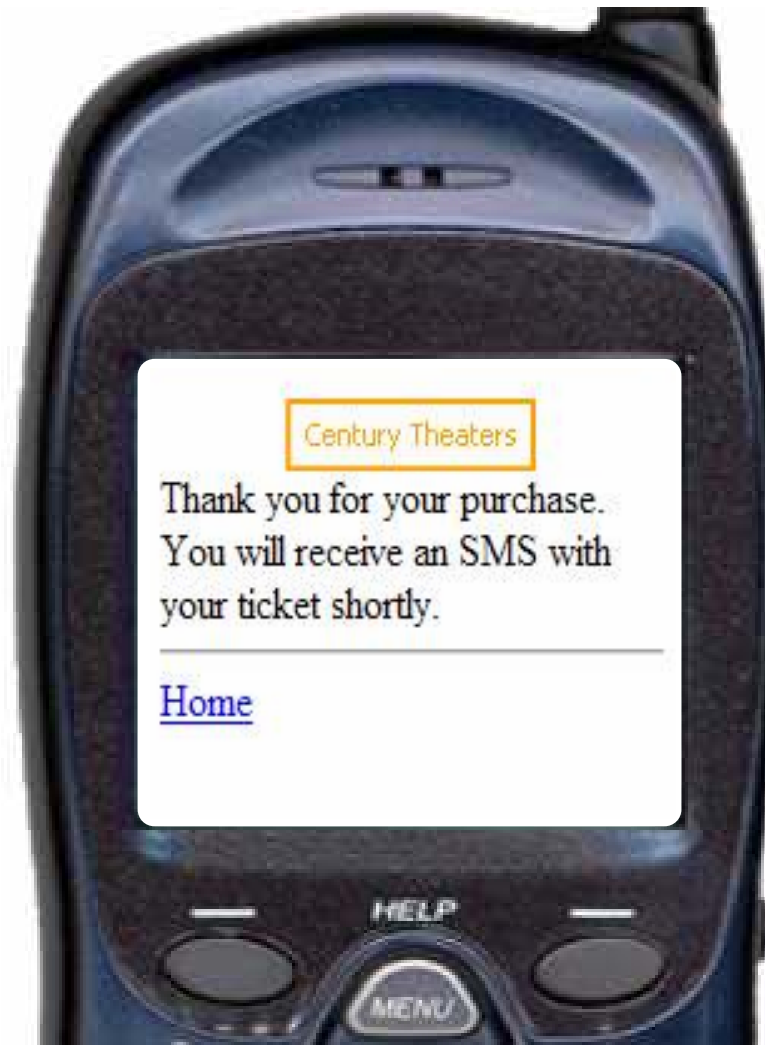
1

2

3

4

# Mobile WAP Checkout



1

2

3

4

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**Developer Resources**

# Developer Resources

Developer Central	<a href="https://paypal.com/developer">paypal.com/developer</a>
Integration Center	<a href="https://paypal.com/integration">paypal.com/integration</a>
Solutions Directory	<a href="https://paypal.com/solutions">paypal.com/solutions</a>
Community	<a href="https://www.paypaldeveloper.com">www.paypaldeveloper.com</a>
Developer Certification	<b>coming soon...</b>

**my e-mail: [dawilliams@paypal.com](mailto:dawilliams@paypal.com)**

# Summary

- Buyers and sellers **prefer** to use PayPal
- **Developers** power innovation
- Our **digital money platform** is yours to build on

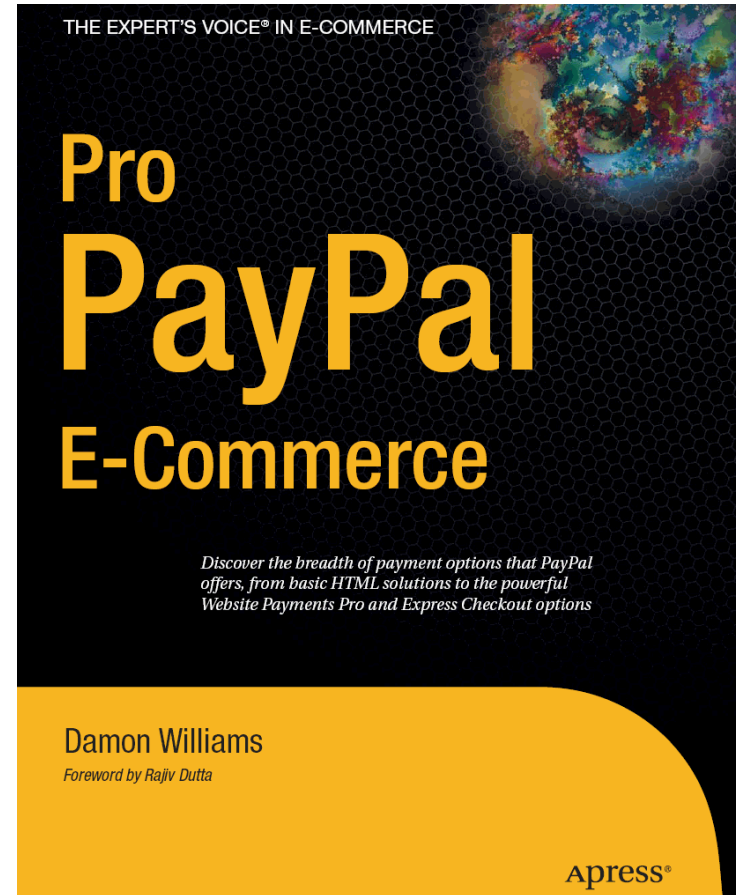
# Stop by the PayPal Booth

- Booth 502
- Daily Raffle for:
  - Apple TV
  - Copies of Pro PayPal E-Commerce
- Funky Dude Keyboard Brush!!!! (a must have)



# Book Signing

- Thursday, May 10
- 1:30–2:00 PM
- Digital Guru bookstore







# Q&A

<code>/>



# PayPal: New Solutions for Java Developers

Damon Williams  
Manager  
PayPal Developer Program

[www.paypal.com/developer](http://www.paypal.com/developer)

Session TS-8976