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WebSphere Commerce V7 Feature Pack 1

Digital coupon

WebSphere software

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This presentation provides an introduction to the digital coupon and digital wallet capability in WebSphere® Commerce V7.0 Feature Pack 1.

Goals

- To understand the updates to coupon functionality
- To understand the digital wallet architecture

Digital coupon

At the end of this presentation, you should understand the changes to the digital coupon function when the digital wallet feature is enabled. You should also understand the structure of the digital wallet services and customization options.

DigitalCoupon.ppt

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- Overview
- New services
- Customization options

Digital coupon

This presentation begins with an overview of the changes to digital coupon. The new services are then introduced followed by a look at the available customization options.

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Overview

- New coupon details view
- Support for coupons in Madisons Mobile store
- New services
- Add-on SAR files
  - MadisonsEnhancements.sar
  - MadisonsMobileEnhancements.sar

Digital coupon

Feature pack 1 introduces a few changes in coupon capability. In the Madisons store, a coupon details view has been added so shoppers can see the details and any restrictions on coupons in their wallet. In the Madisons mobile store, coupon wallet functionality has been added for the first time. Shoppers can now see and use their coupons from both the traditional and mobile stores.

Although the coupon wallet interface has not changed much, there is a new underlying service implementation. You can enable the new features by publishing the add-on sar files for Madisons provided with feature pack 1.

This screen capture shows the new coupon details view. The short description of the discount is displayed in the larger font and the long description is displayed underneath it.

Madisons mobile coupon support
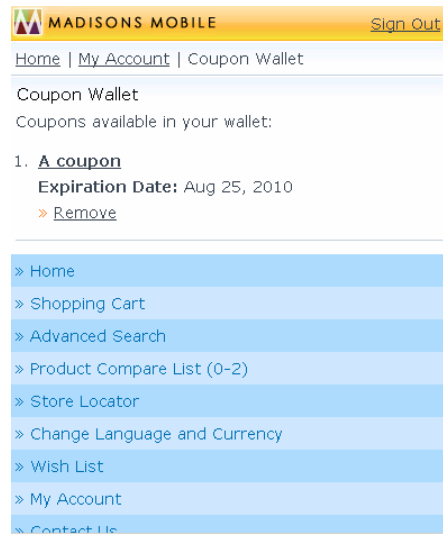
This screen capture shows the coupon wallet in the Madisons mobile store.

Design changes

- New nouns
  - Wallet
  - WalletItem
- New tables
  - WALLET
  - WALLETITEM
- Services
  - WalletFacadeClient

  Note: Wallets are not store path enabled

Digital coupon

The underlying implementation changes introduce two new concepts, a wallet and a wallet item. New database tables, nouns and services have been introduced to support these concepts. Each shopper now has a wallet and each coupon is represented as an item in that wallet. The underlying implementation of the coupon itself has not changed.

Although the store interface remains unchanged, the JSP files have been updated to use the new wallet and wallet items services. An example is shown on the next slide.

Coupon display

- JSTLEnvironmentSetupExtForDigitalWallet.jspf
  - <c:set var=*"useDigitalWallet"* value=*"true"*/>
- DigitalWalletDisplay.jspf
  - Uses getData tags to make Get service calls for Wallet and WalletItem

```
<wcf:getData type="com.ibm.commerce.wallet.facade.datatypes.WalletType"
var="walletNoun" expressionBuilder="findWalletByName">
    <wcf:param name="name" value=""/>
</wcf:getData>
 <wcf:getData type="com.ibm.commerce.wallet.facade.datatypes.WalletItemType[]"
 var="coupons" expressionBuilder="findCouponsByWalletIdAndStatus">
    <wcf:param name="walletId" value="${walletNoun.walletIdentifier.uniqueID}"/>
    <wcf:param name="status" value="0"/>
</wcf:getData>
```

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Here you see an example of some of the new JSP code to display the coupon wallet. The getData tag is used to make Get service calls for both the wallet and coupon wallet items. Coupon is the only wallet item type supported in feature pack 1. The new wallet implementation is known as digital wallet. The flag for turning this feature on and off is in the new fragment file JSTLEnvironmentSetupExtForDigitalWallet.jspf. This slide shows only some of the Get services used in Madisons. For example another WalletItem service is used to retrieve coupons that have been applied to an order.

Coupon issue

- Command
  - IssueCouponControllerCmdImpl
- Traditional behavior
  - Create entry in PX_COUPON
- Digital wallet behavior
  - Create entry in PX_COUPON
  - Create wallet if needed
  - Create wallet item

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When a coupon is issued to a shopper, the same controller command is called regardless of whether the new digital wallets are in use or not. The coupon record is created in the PX_COUPON table. For digital wallets, the command has been updated to create a new wallet if needed and then create a wallet item that represents the coupon.

Remove coupon

- Traditional behavior
  - Call CouponAddRemoveControllerCmdImpl
  - PX_COUPON status changed
- Digital wallet behavior
  - Call WalletFacadeClient.deleteWalletItem
  - PX_COUPON status changed
  - Wallet item deleted

Digital coupon

When a shopper removes a coupon from their wallet different code is called depending on whether the digital wallet is in use or not. If digital wallets are not in use, there is no change and the CouponAddRemoveControllerCmd is called to update the coupon status in PX_COUPON. When digital wallet is enabled, the WalletFacadeClient deleteWalletItem method is called. This method updates PX_COUPON and removes the wallet item record from the wallet.

Apply coupon

- No change
  - Call CouponAddRemoveControllerCmdImpl

Digital coupon

The introduction of the digital wallet and wallet services does not have any affect on applying a coupon to an order. The CouponAddRemoveControllerCmd is called to apply a coupon regardless of the wallet implementation in use.

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Trace strings

- Existing
  - com.ibm.websphere.commerce.WC_MERCHANDISING
  - com.ibm.commerce.promotion.*
- New
  - com.ibm.commerce.wallet.*

For debugging purposes, there is a new trace string com.ibm.commerce.wallet.* that you can add to see wallet and wallet item activity.

Coupon migration

- Migrate existing customer coupons into digital wallet schema
- PX_COUPON -> WALLET and WALLETITEM
- Process is documented in the Information Center

Digital coupon

If you support digital coupons in your store now and want to enable the new digital wallet implementation, there is a simple migration process you can follow to create a wallet and wallet items for customers with existing coupons. This process is documented in the Information Center.
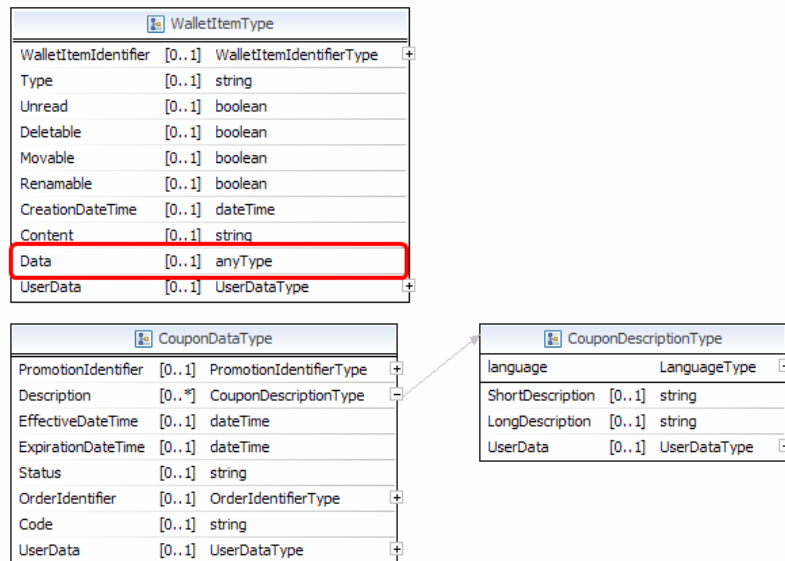
Customization

- Support new wallet item types
  - Extend WalletItem noun to support new type
  - Extend digital wallet services to manage new item type
    - InsertMoreWalletItemTypeSpecificDataCmd
    - ProcessWalletItemTypeSpecificActionCmd
  - Modify existing process flow to add new items to the wallet using extended services

Digital coupon

The digital wallet implementation can be extended to support wallet item types other than coupons. This customization requires the WalletItem noun be extended to support the new item type. The type-specific details of a wallet item are contained in the Data noun part shown on the next slide.

You also need to extend the digital wallet services to add the logic to manage the new item type. You will then need to create implementations of the InsertMoreWalletItemTypeSpecificDataCmd and ProcessWalletItemTypeSpecificActionCmd interfaces for your new item type. The first command populates the Data portion of the WalletItem noun for your item type. The second command performs type specific actions when the WalletItem Process service is called. For example type specific logic for deleting an item.

Finally, you need to update any store flows involved in adding or removing the new item.

WalletItem noun

WalletItemType		
WalletItemIdentifier	[0..1]	WalletItemIdentifierType
Type	[0..1]	string
Unread	[0..1]	boolean
Deletable	[0..1]	boolean
Movable	[0..1]	boolean
Renamable	[0..1]	boolean
CreationDateTime	[0..1]	dateTime
Content	[0..1]	string
Data	[0..1]	anyType
UserData	[0..1]	UserDataType

CouponDataType		
PromotionIdentifier	[0..1]	PromotionIdentifierType
Description	[0..*]	CouponDescriptionType
EffectiveDateTime	[0..1]	dateTime
ExpirationDateTime	[0..1]	dateTime
Status	[0..1]	string
OrderIdentifier	[0..1]	OrderIdentifierType
Code	[0..1]	string
UserData	[0..1]	UserDataType

CouponDescriptionType		
language		LanguageType
ShortDescription	[0..1]	string
LongDescription	[0..1]	string
UserData	[0..1]	UserDataType

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This screen capture shows the WalletItem noun. The Data noun part is circled in red. This is the portion of the noun that contains the item specific data. For a coupon wallet item, the Data noun part contains a CouponDataType, also shown in the picture.

Summary

- Overview
- New services
- Customization options

Digital coupon

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References

- Publishing the Madisons enhancements store archive

http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.remotewidgets.doc/tasks/trwpubsar.htm

- Digital wallet

http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.developer.soa.doc/concepts/csddigitalwallet.htm

- Migrating coupon data to digital wallets

http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.developer.soa.doc/tasks/tsdmigwallet.htm

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This slide contains some useful references for further reading.

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