



Introduction to Product Catalog

Presenter's Name

Presenter's Title

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Agenda

- Overview of a Catalog
- Using the Product Catalog
- Catalog Templates

Learning Objectives

At the end of this lesson you should be able to:

- Understand the product catalog and the items it is composed of.
- Organize products into categories and sub categories
- Learn about the relationship between products and SKUs.
- Use the different repository items that comprise of a product catalog.
- Learn about SKU Bundles and Configurable SKUs
- Organize Media Items and Folders.

Section 1

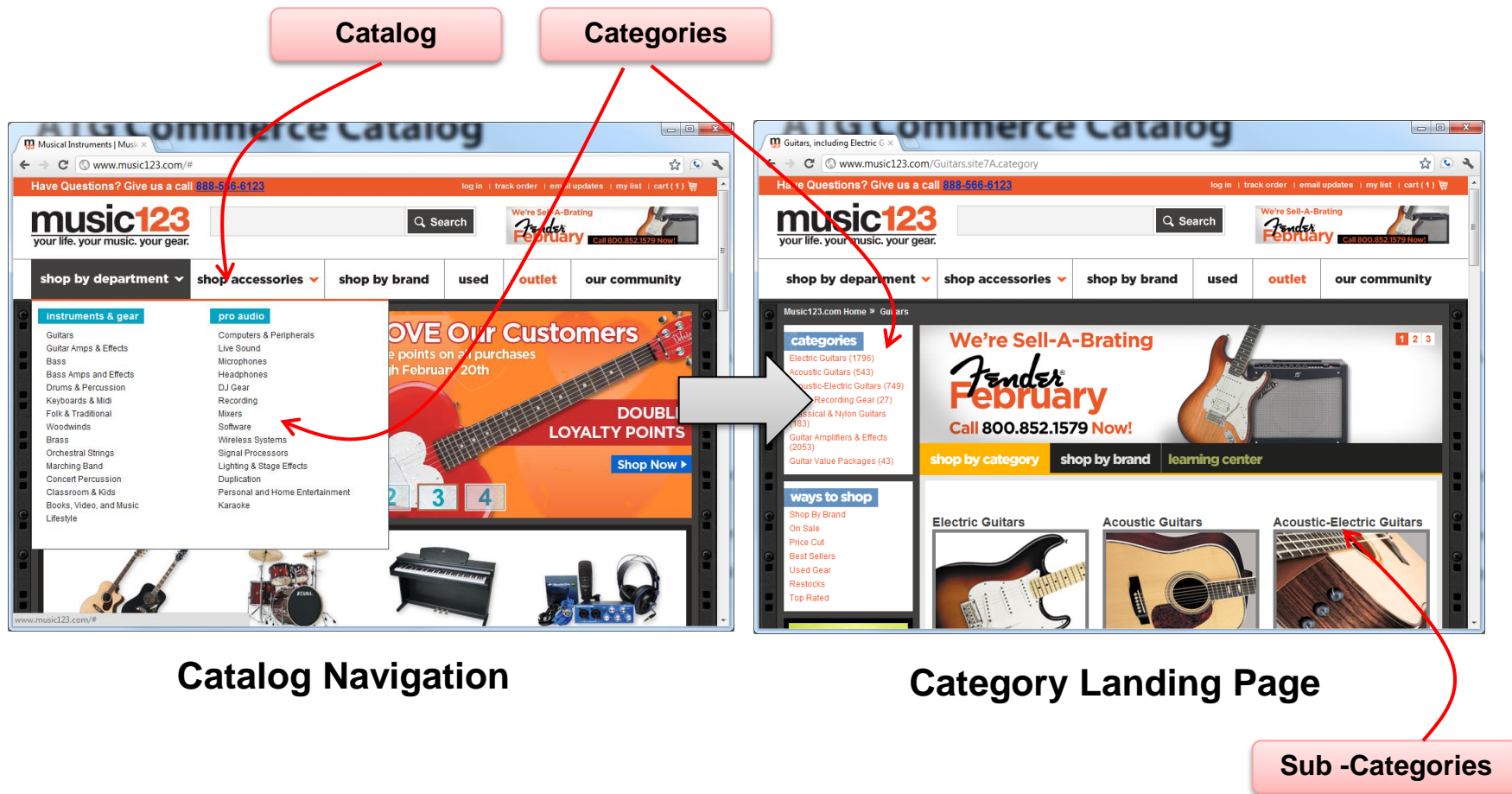
Overview of a Catalog



What is a Catalog?

- A product catalog is composed of related items that form an organization and navigational framework enabling customers to locate and purchase items.
- It is a collection of repository items such as categories, products, media, etc.
- ATG commerce includes a catalog implementation based on the ATG SQL repository, which you can use or extend as necessary.
- It is typically like a hierarchical tree much like the files and folders on a computer.
- The root of the tree is called a catalog. It has categories under it. Each category then has products.

A Typical Browse Session on an eCommerce Site (1)



Catalog Navigation

Category Landing Page

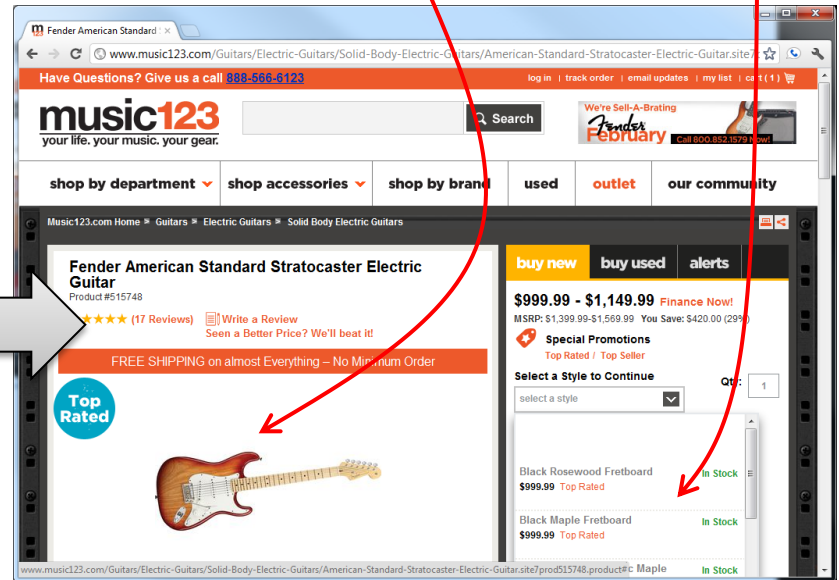
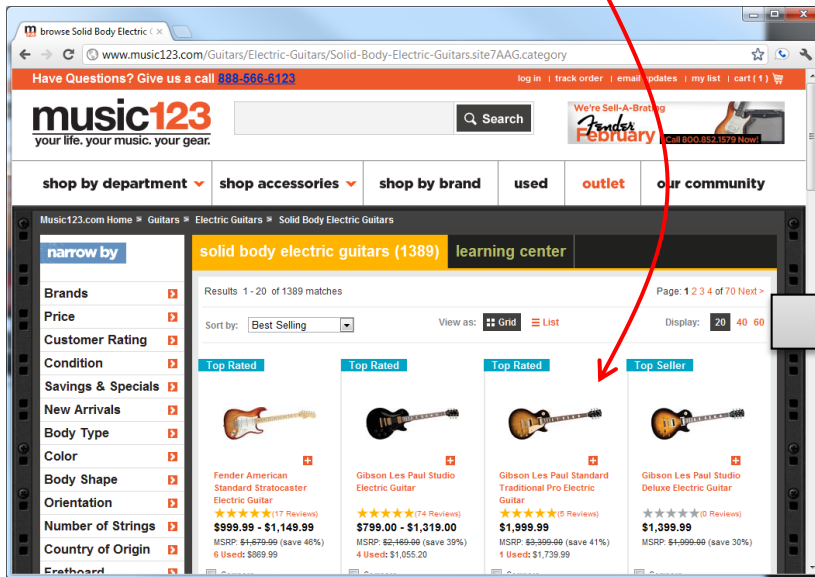
Sub -Categories

A Typical Browse Session on an eCommerce Site (2)

Product Listing

Product Details

SKU



Product Listing

Product Details

A Typical Browse Session on an eCommerce Site (3)

- Joe Bruin visits an eCommerce site.
- He is presented with a catalog of items to purchase arranged in categories and sub-categories.
- Joe then proceeds to view the categories and selects guitar as the category and electric guitar as sub-category.
- He is then presented with a list of products. Joe selects one for research.
- Joe is shown the details of the products and is shown product variants (SKUs) he can purchase.
- Joe selects the one with black fret board and proceeds to the cart.

Concepts Covered in the Browse Path

- The following concepts were used in discussing the browse path:
 - Catalog,
 - Category,
 - Product,
 - SKU.
- A Catalog is a hierarchical organization of categories, products, and SKUs. Specifically it is an object that holds references to the root categories.
- A Category is like a folder. It is a container for other categories and products.
- A SKU is a purchasable unit or item.
- A Product is a conceptual design of a collection of SKUs that are very similar.

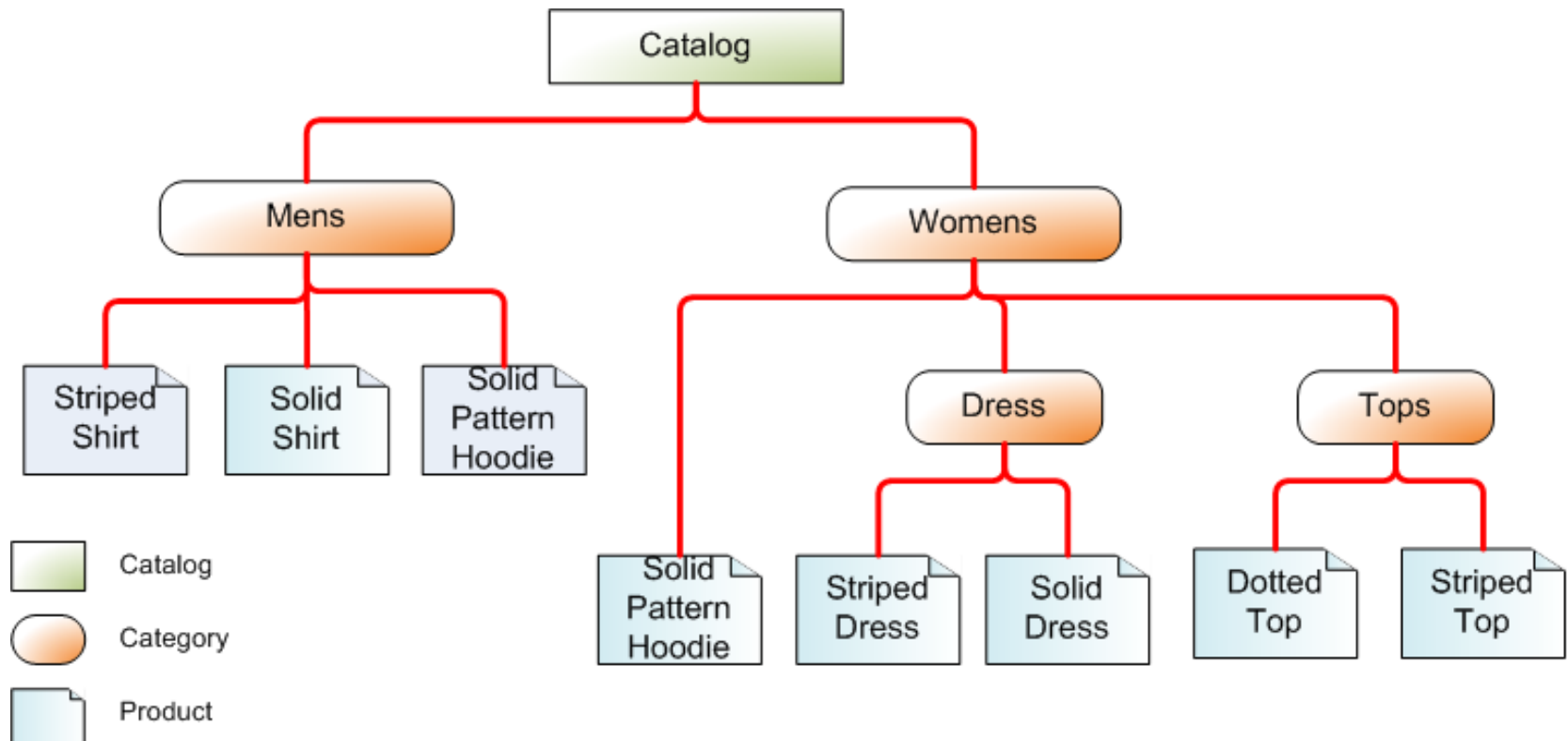
Catalog Concepts

- The default catalog is built using a SQL repository.
- It allows you to create complicated product structures.
- It forms the base of the hierarchy used for navigating a commerce site.
- The catalog repository includes the item types such as catalogs, categories, products, SKUs, and media items.
- An eCommerce site can use multiple catalogs depending on business requirements.
- Typically, you can choose which catalog applies to a user and assign it to him for the session.

Organizing Products and Categories

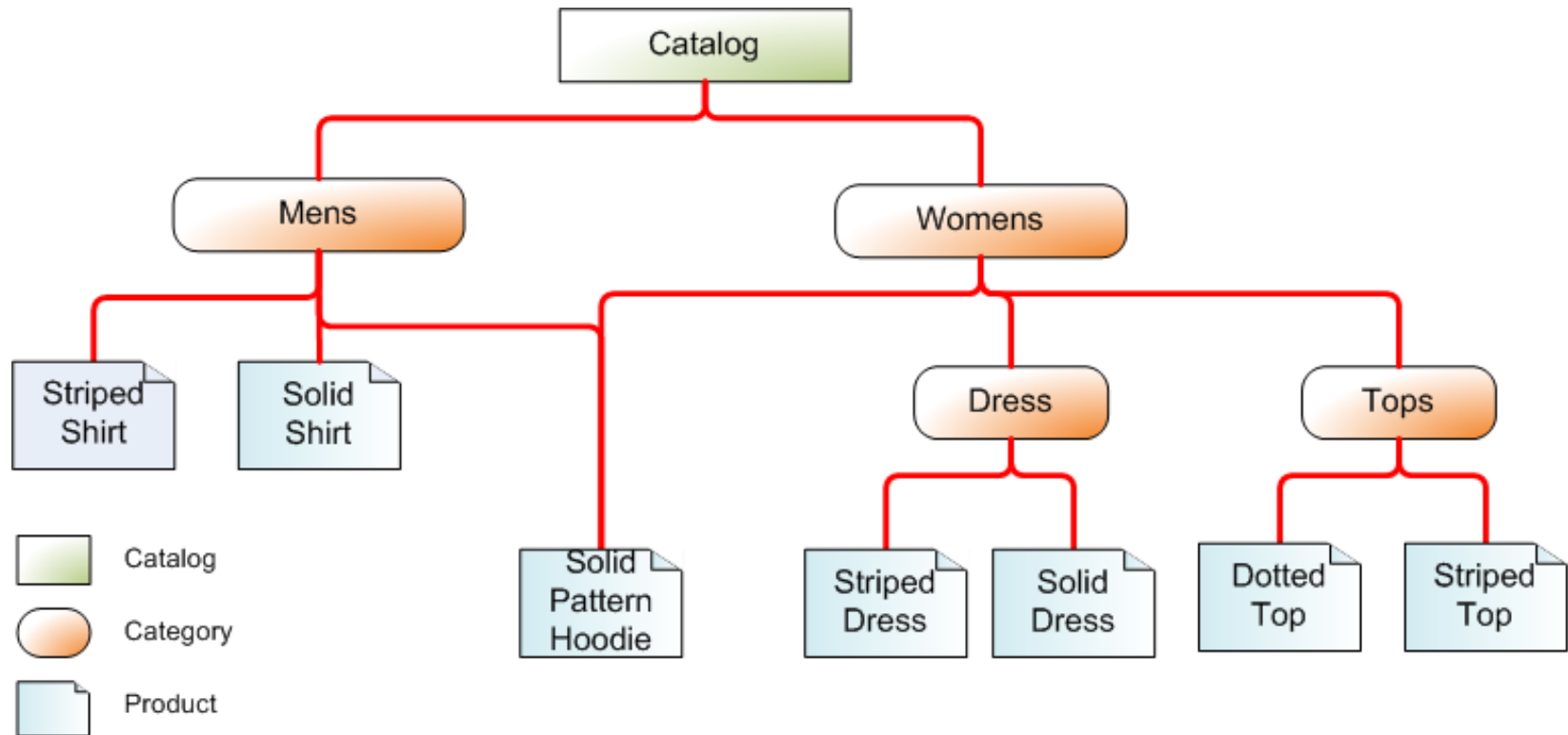
- ATG provides the freedom to organize the products in a manner that best represents your business.
- You may organize products in any way that makes sense to your audience.
- You may choose to organize products and categories to have a single parent for ease of navigation.
- You may also share products and/or categories between categories. Hence some products or categories may have multiple parents.
- Your organization of products will depend on your products and how your target market views the categorization of those products.
- Organization should be intuitive allowing buyer to quickly find what they are looking for.

Single Navigation Path Model



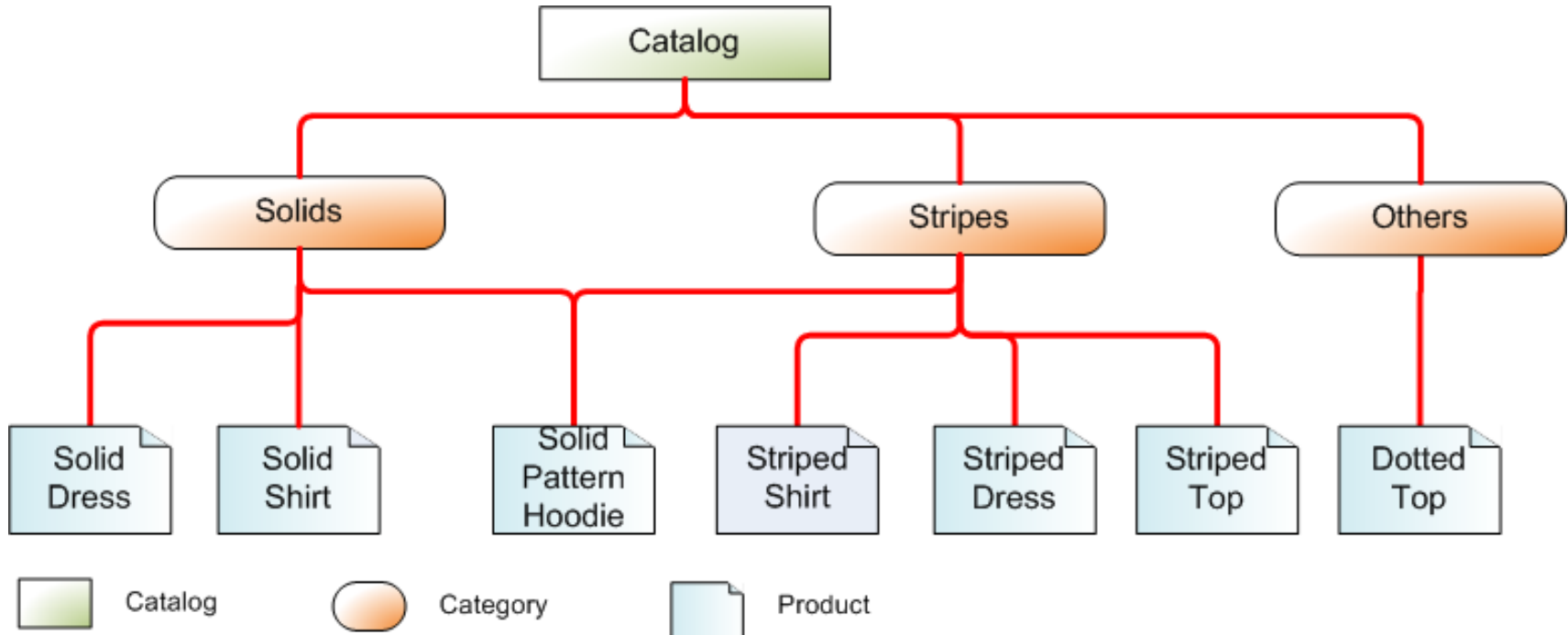
- Each product and category has only one parent in this example.

Multiple Navigation Paths Model



- Some products or categories may be shared between categories as seen in this example.

Alternate Navigation Model



- You can arrange them completely differently by pattern and type of clothing.

Category

- Categories organize your catalog into a hierarchy.
- They provide a navigational framework for your commerce site.
- A category can contain other categories and products.
- A category which provides a main or navigational anchor for your site is called **root** category.
- A category which is a under of a root category is called a **child** category.
- A typical website shows root categories on the top navigation bar.

Products and SKU (1)

- **SKU** stands for ***Stock Keeping Unit***.
- A SKU usually represents an indivisible unit that can be purchased.
- A **Product** is a conceptual design that encapsulates a set of SKUs.
- It is the navigational end point of a catalog.
- A product can have several different SKUs associated with it.
- Take for example, a shirt that is available in white, blue, and green and comes in small, medium, and large.
- A SKU would be the shirt in white and of size small.
- The shirt itself would be the product.

Products and SKU (2)

- A product can have multiple SKUs under it.
 - Product: shirt; Colors: white, blue; Size: small, medium, large
 - Product: shirt
 - List of SKUs:

small white	small blue
medium white	medium blue
large white	large blue

- Sometimes the product can have a single SKU.
 - For example: electronics.
- Product is a hypothetical entity that makes it easier to assign common properties to the set of SKUs.
 - For example, in the shirt example: material, care, brand, etc. are shared by all the SKUs.

Section 1



Check Your Understanding

What is the navigation end point of the catalog?

Answer: A product is the navigation end point of the catalog.

Section 1



Check Your Understanding

What does the default implementation of the product catalog repository use?

Answer: ATG Commerce uses SQL repository to implement the product catalog.

Section 1

Check Your Understanding

What is the organizational structure of the catalog?

Answer: ATG provides wide flexibility to organize the catalog in any way you prefer. Some examples are single navigation structure and multiple navigation structure.

Section 1

Check Your Understanding

What are root categories?

Answer: Root categories are like navigational anchors. They are the starting point of the navigation of your site.

Section 1



Check Your Understanding

Is a product saleable?

**Answer: A product in itself is not saleable.
A SKU that is attached to it is.**

Summary

- A product catalog is composed of related items that form an organizational and navigational framework enabling customers to locate and purchase items.
- Repository items such as catalog, category, product, SKU, and media form the basis of the product catalog.
- These repository items are arranged in a hierarchical tree.
- A catalog object is a container for categories and forms the basis for the navigation.
- Categories organize your catalog into a hierarchy.
- A product is a conceptual design that encapsulates a set of SKUs.
- A SKU usually represents an indivisible unit that can be purchased.



Section 2

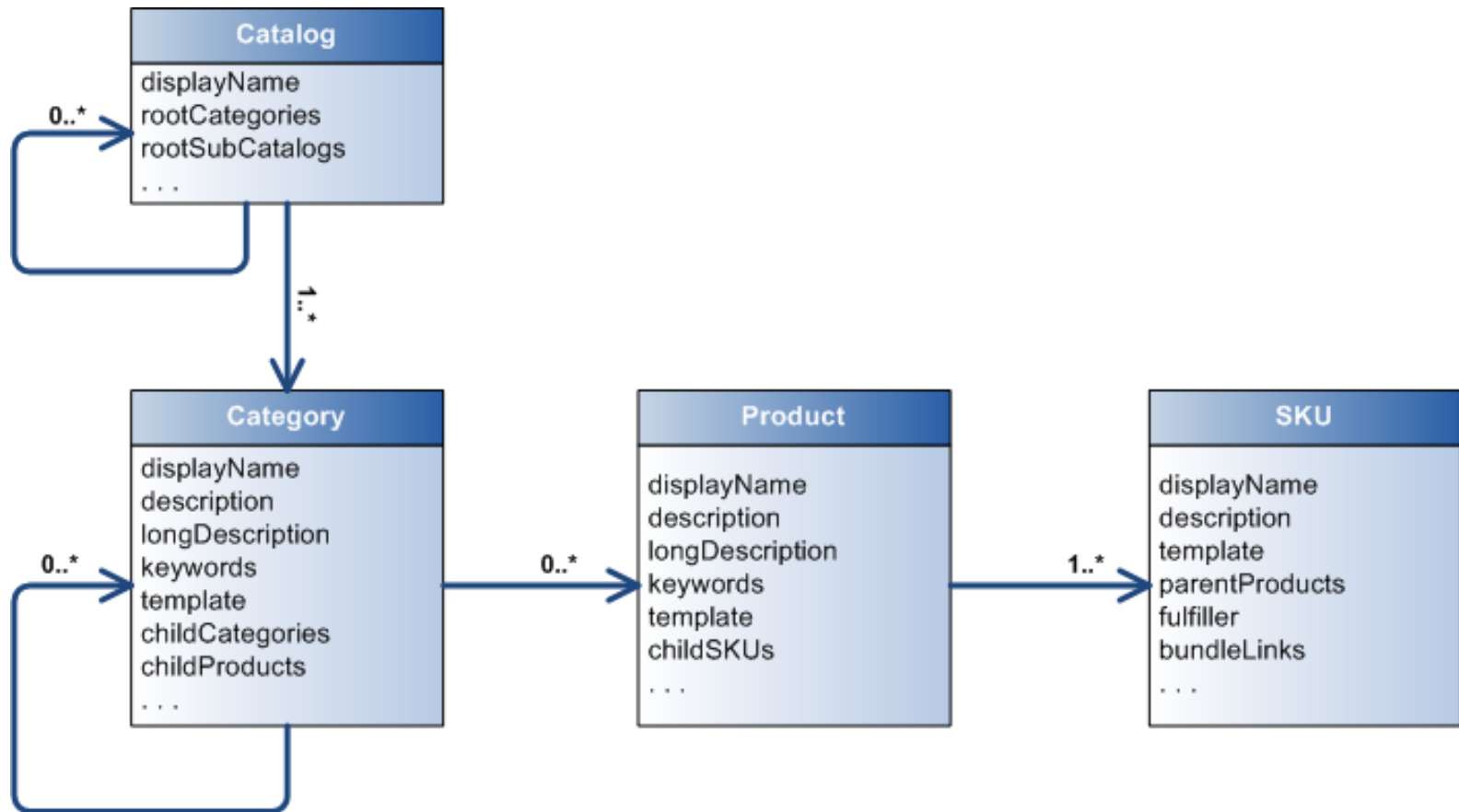
Using the Product Catalog



Catalog Repository Overview

- ATG commerce uses SQL repository to define the product catalog.
- A catalog repository is similar to any other SQL repository.
- There are three main parts to the Catalog Repository:
 - The database schema is typically called CATALOG schema.
 - The catalog repository component is located at `/atg/commerce/catalog/ProductCatalog` .
 - The repository definition file.

Common Catalog Repository Items



Catalog Item Type

- Defines the catalog repository item in repository.
- Contains the following important properties:

Property	Description
displayName	Name used to refer to the catalog.
rootCategories	List of the top-level categories in the catalog.
rootSubCatalogs	List of catalogs whose root categories are also root categories of the catalog.

- Optional sub-catalogs can be added in the catalog.
- Sub-catalogs allow you to share part of your existing catalog between catalogs or to expose them specially.

Category Item Type

- Defines category repository item in repository.
- Contains the following important properties:

Property	Description
displayName	Name used for the category on the site.
description	Short descriptive text for display with this category.
longDescription	Detailed descriptive text for display with this category.
keywords	Set of words that can be used in searching for this category.
template	JSP template used to display this category.
childCategories	List of all categories that are children of this category.
childProducts	List of all products that are children of this category.

Setting Root Categories

- The starting point of a navigation is referred to as root categories.
- You can designate a category as root by setting the rootCategories property of the catalog to include the category.
- allRootCategories of the catalog is a computed property that includes the root categories from the catalog and all the sub catalogs of the catalog.
- The categories set as root are considered to be the top level of the product catalog.
- These are usually displayed on the top navigational bar.

Product Item Type

- Defines product repository item in repository.
- Contains the following important properties:

Property	Description
displayName	Name used for the product on the site.
description	Short descriptive text for display with this product.
longDescription	Detailed descriptive text for display with this product.
keywords	Set of words that can be used in searching for this product.
template	JSP template used to display this product.
childSKUs	List of child SKUs of this product.

SKU Item Type

- Defines SKU repository item in repository.
- Contains the following important properties:

Property	Description
displayName	Name used for the SKU on the site.
description	Short descriptive text for display with this SKU.
template	JSP template used to display this SKU.
bundleLinks	List of SKU links that make up the SKU bundle.
parentProducts	List of products assigned the current SKU.
fulfiller	Fulfiller who will ship the item.
skuInfos	Map from SKU to a SKUInfo.

SKU Item Type Other Properties

- Other important properties:

Property	Description
onSale	Boolean property that indicates if the item is on sale.
salePrice	Price of the SKU if onSale property is true.
listPrice	Default price of the SKU before any discounts or promotions.
wholesalePrice	Wholesale price of the SKU.

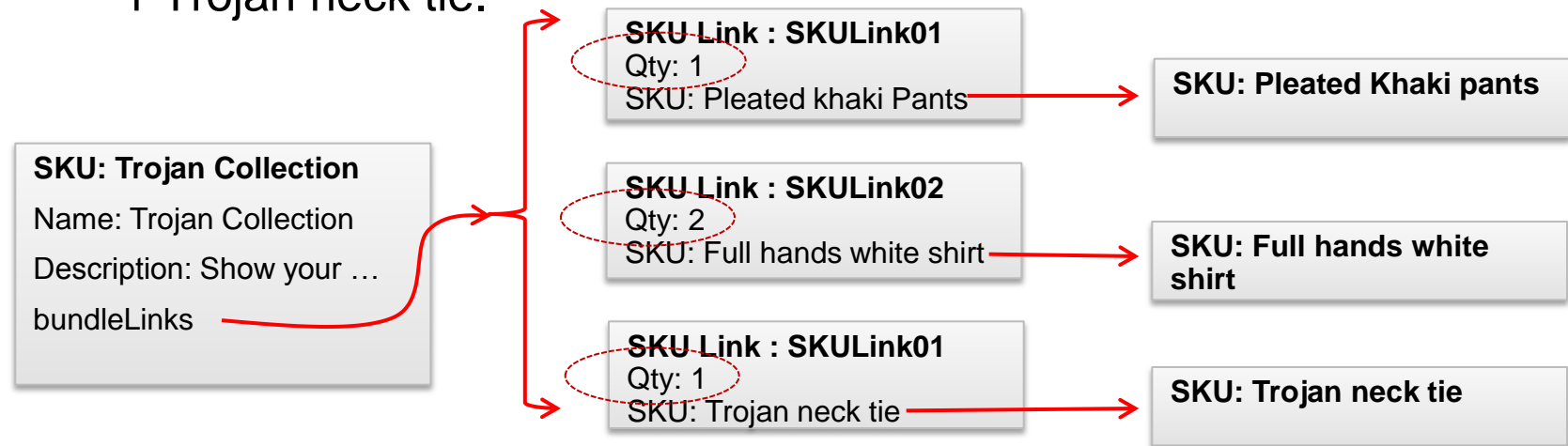
- These properties affect the price of the SKU.
- These are typically ignored if using a price list based pricing.

SKU Types

- SKU usually represent an indivisible unit that can be purchased.
- However, there are other types of SKUs.
 - **Simple SKU:** A single SKU that is attached to the product and sold as is.
 - **SKU Bundle:** A virtual SKU that is composed of several other SKUs sold and priced together.
 - **Configurable SKU:** Configurable items consist of a base SKU and a number of optional sub SKUs for the user to choose among.

SKU Bundles

- A bundle SKU is a collection SKUs and quantities.
- The bundleLinks property is a list of SKU links. If the bundleLinks property is null, it is a simple SKU.
- A SKU Link includes a SKU and a quantity.
- For example, the Trojan Collection could include:
 - 1 Pleated khaki pants,
 - 2 Full hands white shirt,
 - 1 Trojan neck tie.



Creating and Handling SKU Bundles

- To create a SKU Bundle:
 - Creating any number of SKU links, each SKU link includes a SKU and a quantity.
 - Add those SKU links to bundle SKU's bundleLinks property.
- Developers may choose to examine the SKU in the UI and code special appearance for it.
- In general, a SKU Bundle is treated as a normal sku by the shopping cart and purchase process.
- When the fulfillment system recognizes that a SKU is a bundle, it fulfills the purchase by performing the fulfillment of each quantity of items defined in the SKU Link.

Configurable SKUs

- A Configurable SKU represents an object that is sold as a single item, but has variable components.
- An example is a computer system:
 - The **base SKU** is the configurable SKU.
 - The **Configurable Property** represents an individual aspect such as hard drive or RAM.
 - The **Configurable Option** is an option for the configurable property such as 500 GB, 1 TB, 500 GB SSD, etc. for the hard drive property above.
- You can link the configurable option to an existing SKU.

Configurable SKUs

- Configure the following repository items:
 - configurableSku - Base SKU for the product, to which other products can be added as options.
 - configurableProperty - A category of sub SKUs representing an aspect of the SKU.
 - configurationOption - Representing the actual product option for a given configurable property.
- Developers must handle the configurable SKU specially in the UI layer to present the options to the users.

Media Items

- Media items are catalog repository content items that are used in constructing the pages in the catalog.
- Category, product, and SKU items have presentation properties, which are links to media items.
- A typical example of media items are images and templates for catalogs, categories, products, and SKUs.
- Media items are similar to abstract Java objects, cannot be instantiated by themselves.
 - The media sub types defined in the product catalog provides instantiable /creatable repository items.

Media Item Sub Types

- The product catalog includes three sub-types for media:
- Media-external
 - This item type references a piece of content that is stored outside the database.
 - The content can be either be either a binary file or a text file.
- Media-internal-binary
 - This item type can be used to store binary objects (such as images) in the catalog database.
- Media-internal-text
 - This item type can be used to store text files (such as JSPs) in the catalog database.

Media Item Type

- Defines the media repository item in repository.
- Contains the following important properties:

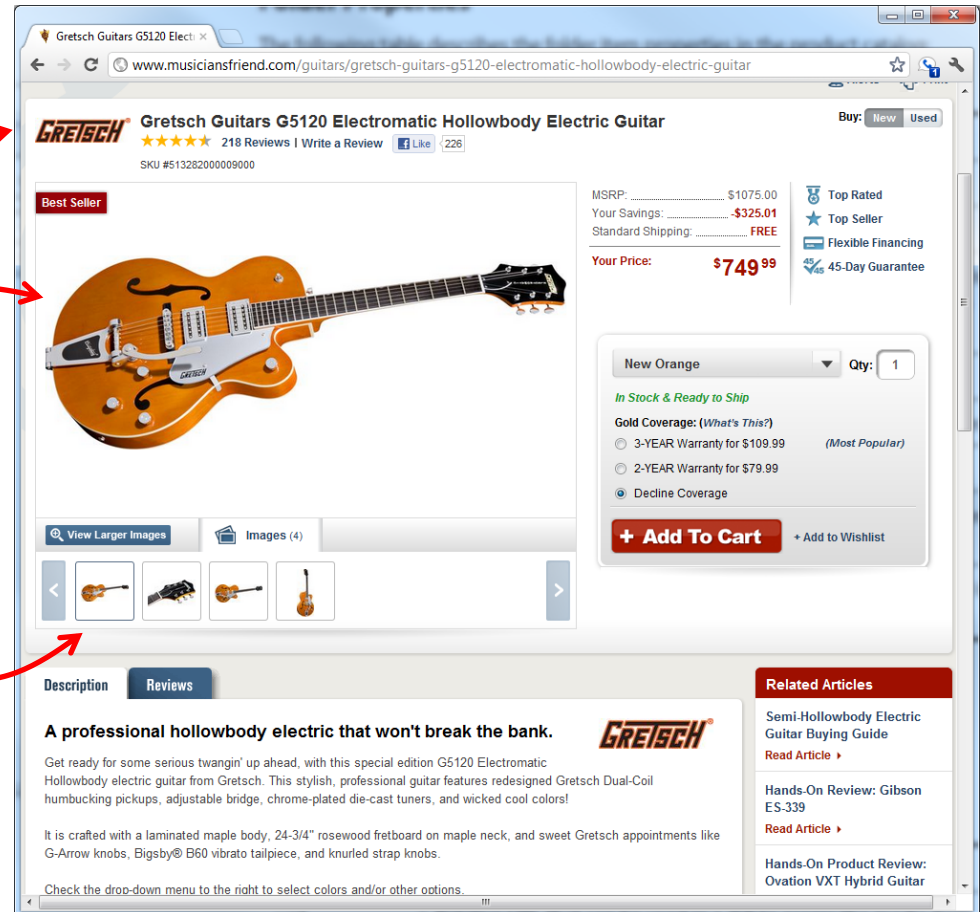
Property	Description
name	File name for this media item.
description	Short descriptive text for display with this media item.
path	Complete path for this media item.
url	Relative URL that can be used in a JSP to access the media item.
data	Defines whether a media item is binary or text.
contentType	A user-defined property that returns the content type value by examining the URL property.
parentFolder	Folder that contains this media item.

Example of Media Usage

Media:
Brand Image

Media:
Product
LargeImage

Media:
Product
AuxiliaryImages



Folders

- Repository items to organize media elements.
- Used only in the administrator user interface.
- Several administrative properties used as an aid to catalog administrators.

Property	Description
name	File name for this media item.
description	Short descriptive text for display with this folder.
creationDate	Date this folder was created.
startDate	Date this folder becomes available, if a collection filter is implemented to use this property.
endDate	Date this folder will no longer be available, if a collection filter is implemented to use this property.

Section 2



Check Your Understanding

What type of repository is used to define ATG product catalog?

Answer: ATG product catalog is defined using a SQL repository.

Section 2

Check Your Understanding

Where is the repository component located at?

**Answer: The catalog repository component is located at
`/atg/commerce/catalog/ProductCatalog`.**

Section 2

Check Your Understanding

Name a few properties of the catalog item.

Answer: displayName, rootCategories, and rootSubCatalogs are some of the properties of catalog repository item.

Section 2



Check Your Understanding

What is the keywords property of category and product item used for?

Answer: The category item type defines keyword which is a set of words that can be used in searching for this category/product.

Section 2

Check Your Understanding

SKU define a property called bundleLinks. What is it used for?

Answer: BundleLinks is a list of SKU links that make up the SKU bundle. If it is null, the SKU is a simple SKU.

Section 2

Check Your Understanding

What are some of the SKU types?

Answer: Simple SKU, SKU bundle, and configurable SKUs are some of the SKU types.

Section 2

Check Your Understanding

What are configurable SKUs?

Answer: A configurable SKU represents an object that is sold as a single item, but has variable components.

Summary

- ATG commerce uses SQL repository to define the product catalog.
- Catalog repository item contains displayName and links to categories and sub catalogs.
- A category item contains display elements and links to other child categories and products.
- A product contains display elements and links to child SKUs.
- A SKU contains mostly display information. It also contains pricing and fulfiller information.
- SKU bundles are virtual SKU that are composed of several other SKUs sold and priced together.
- Configurable SKU consist of a base SKU and a number of optional sub SKUs for the user to choose among.
- Media items are catalog repository content items that are used constructing the pages in the catalog.



Section 3

Catalog Templates




Catalog Templates Overview

- You can display categories and products on your commerce site using JSPs.
- Rather than requiring the creation of separate JSP for each page, you can create a template page and fill the dynamic elements from the repository item.
- Also, you can link this template to the product or category.
- This allows the merchandiser to change the look and feel of the category or product page by changing its template property.
- The developers can display any item without knowing in advance what template the item uses.
- You can use the template to even display a portion of the page.

Example of a Template Usage

- The example shows how to use the template for a product. Usage for category is very similar.
- You can also use dsp:include droplet in a similar manner.

```
<dsp:droplet name="/atg/dynamo/droplet/ForEach">
<dsp:param param="category.childProducts" name="array"/>
  <dsp:oparam name="output">
    <dsp:getvalueof var="templateURL"
                    param="element.template.url"/>
    <dsp:a href="${templateURL}">
      <dsp:valueof param="element.displayName"/>
      <dsp:param param="element.repositoryId" name="itemId"/>
    </dsp:a>
  </dsp:oparam>
</dsp:droplet>
```

A red dashed oval highlights the `var="templateURL"` attribute of the `<dsp:getvalueof>` tag. A red arrow points from this oval to the `${templateURL}` expression within the `href` attribute of the `<dsp:a>` tag, illustrating how the value is passed from the first tag to the second.

Example of a Template

- Developers need to read the `template.url` property of category, product, or SKU and link it in the calling JSP.
- Developers should also pass in the identifying information to locate and display the repository item in the JSP.
- Additional information may be passed into the template JSP to control the display of the item.
- A template is written in JSP using regular tags, droplets, slots, etc.
- It is like any other JSP page on the website.
- The previous example shows the identifying information sent to the page on the link.

Example of a Template (2)

product.template.url = "ProductDisplayTemplate.jsp"

CategoryDisplayTemplate.jsp

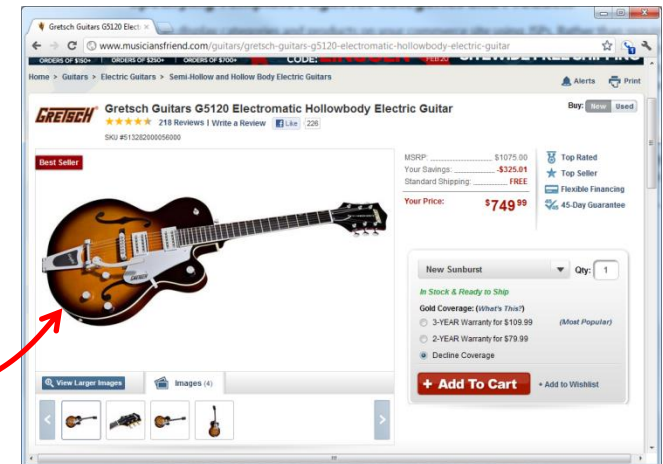
```
<dsp:getvalueof var="templateURL" param="product.template.url"/>
<dsp:a href="{templateURL}">
  <dsp:valueof param="product.displayName"/>
  <dsp:param name="productId" param="product.repositoryId" />
</dsp:a>
```

ProductDisplayTemplate.jsp

```
<dsp:droplet
  name="/atg/commerce/catalog/ProductLookup">
  <dsp:param name="id" param="productId"/>
  <dsp:oparam name="output">
    <dsp:valueof param="element.displayName"/>
    <dsp:getvalueof var="imageUrl"
      param="element.largeImage.url"/>
    
  </dsp:oparam>
</dsp:droplet>
. . .
```



Gretsch Guitars G5120
Electromatic Hollowbody
Electric...

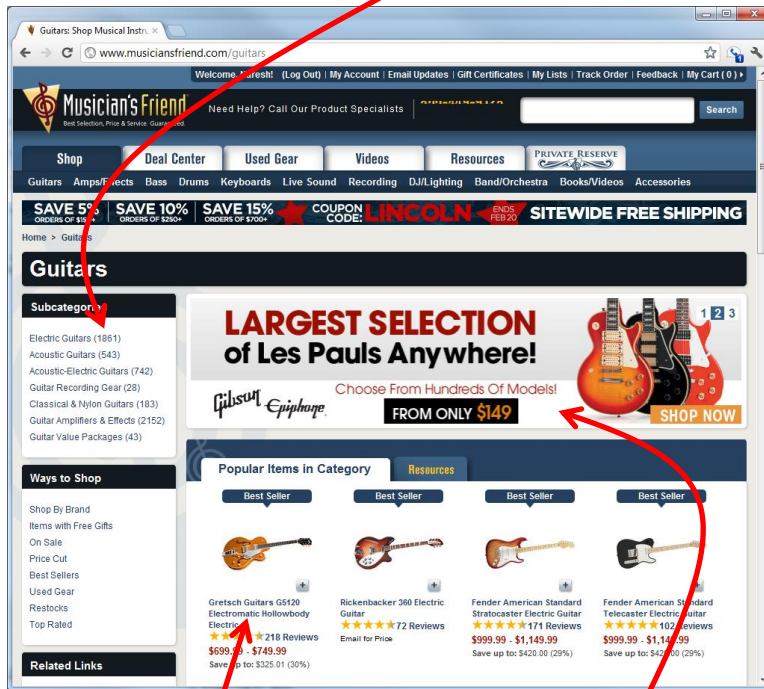


Template Elements

- Typically, eCommerce sites have similar elements for a category, sub-category, and product.
- This section lists the common elements of these templates.
- You should develop the templates based on your business requirements.
- Multiple templates may be designed for the same type of repository item.
- The merchandiser can choose which template to apply for a given specific repository item.
- Name your template appropriately and place them in a good folder structure to make them easy to find and use.

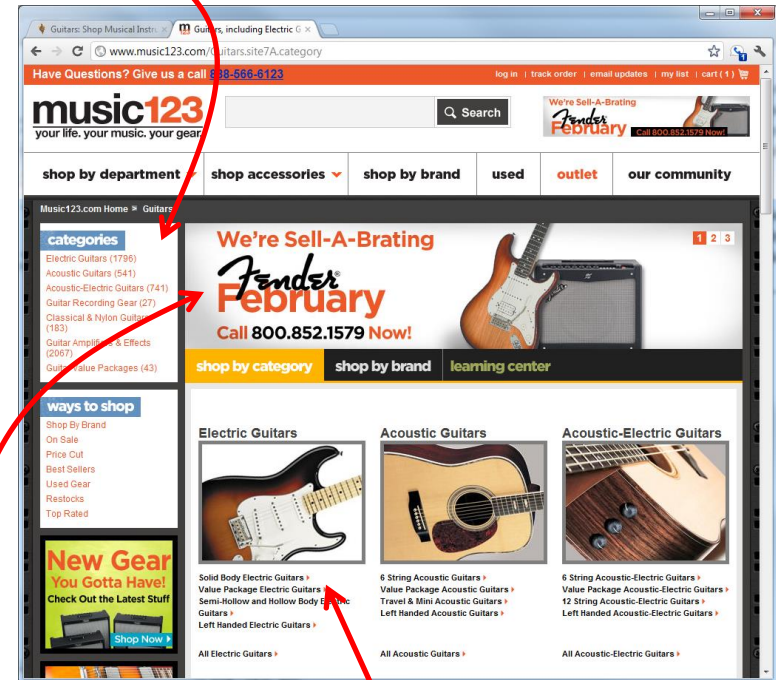
Category Template

Sub Category Listing



Popular Products

Category Banner



Visually show Sub Categories

Another Category Template Example

The image shows a screenshot of an e-commerce website's category page for men's jackets and vests. Red arrows point from labels on the left to specific elements on the page:

- Search Box** points to the search bar at the top right.
- Navigational Bar** points to the top navigation bar containing 'MEN'S', 'WOMEN'S', 'Brand', and 'Seasonal'.
- Category Banner** points to the large banner image showing two people riding bicycles.
- Bread crumbs** points to the breadcrumb trail 'MEN'S > Jackets & Vests'.
- Sort** points to the 'Sort by: Default' dropdown menu.
- Products** points to the product grid displaying four items.

The product grid shows four items, each marked as a '★ BEST SELLER':

Product Name	Price Range	Action
American Style® Open...	\$75.38 - \$99.99	Compare Product
American Style® Deni...	\$40.50 - \$52.50	Compare Product
American Style® Puff...	\$45.50 - \$60.50	Compare Product
American Style® Ligh...	\$52.10 - \$57.50	Compare Product

Product Detail Template

Pricing

Product Name

Product Image

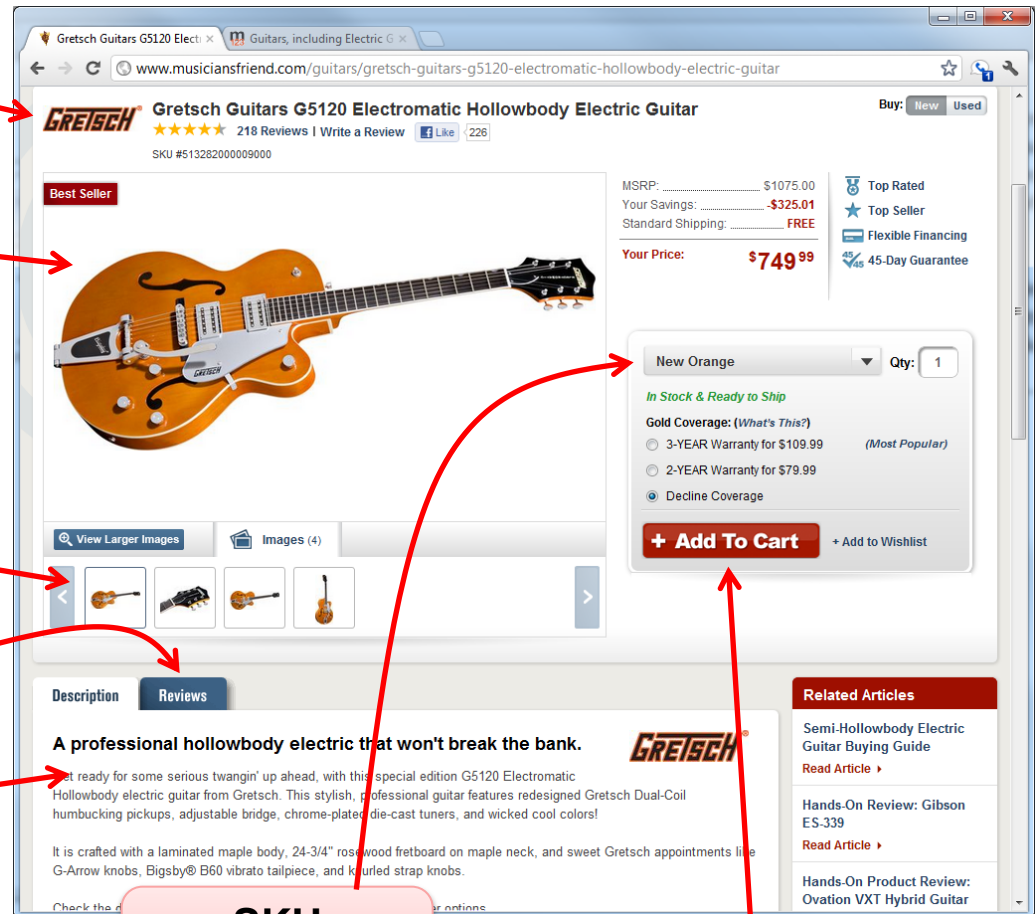
Additional Images

Reviews

Description

SKU Selection

Add to Cart



Another Product Template Example

Price

Name

Description

Bread Crumbs

Product Main Image

SKU Selector

Quantity

Add to Cart

ZANNA Practical fashion

MEN'S WOMEN'S | Brand Seasonal

Search keywords or item SEARCH

Bag: 0 item CHECKOUT

MEN'S > Jackets & Vests > American Style® Open-Bottom Leather Jacket

American Style® Open-Bottom Leather Jacket
Style: prod20003

\$75.38 - \$99.99

ADD TO WISH LIST +

SHARE

Step 1: Size - size

Step 2: Colors -

Step 3: Quantity - 1

ADD TO BAG

Performance Fit, Fabric, Source & Care Features

Light and packable the fabric sits off the skin for comfort and breathability and is treated with a special finish for added water repellency. Articulated knees and 2-way stretch provide natural fit and movement while snap-adjustable cuffs button tight for any occasion.

Section 3

Check Your Understanding

What are catalog templates coded in?

Answer: They are coded in JSP using droplets, tags, slots, etc.

Section 3

Check Your Understanding

What are some of the advantages of using templates?

Answer: Merchadisers can switch the look and feel easily and it prevents creation of a large number of JSP pages by reusing existing pages.

Section 3



Check Your Understanding

What property of the product and category can be used to access the template URL?

Answer: The product.template.url and category.template.url can be used to access the URL.

Section 3



Check Your Understanding

What are the typical elements of a category template?

Answer: Sub category listings and common products.

Section 3



Check Your Understanding

What are the typical elements of a product detail template?

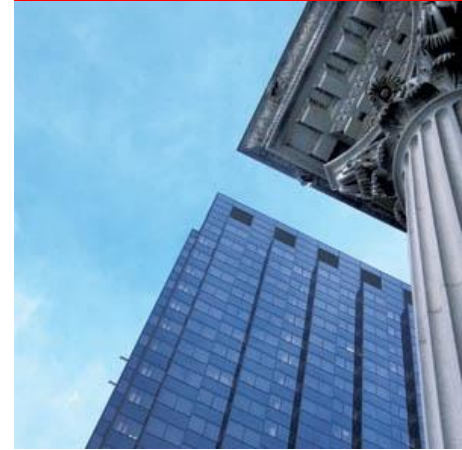
Answer: Information about the product and SKU selector.

Summary

- Catalog templates allow the merchandiser to change the look and feel of the category or product page.
- You can use dsp:a or dsp:include to enable the use of templates for product and category.
- Templates are custom coded with the UI elements that satisfy the business requirements.
- Category template typically has sub-category listing and a list of common products.
- Sub-category template typically displays further sub-categories and a listing of products.
- A product detail template displays information about a product such as image, name, pricing, and a SKU selector.



Q&A





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