# Web Navigation: What is it and why does it matter?

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March 25, 2004 Keith Instone instone@user-experience.org

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### Hi, I am Keith

- Information Architect, User Experience, ibm.com
- Computer science > Human-computer interaction > Hypertext > Web usability
- Telecommute to work from Toledo
- In-laws live near Old Man's Cave

#### Overview

- Web navigation overview
- Global, local, contextual & personalized navigation
- Breadcrumbs
- Faceted browsing

#### Web Navigation

- Oh, what is navigation?
- Central metaphor for the web
- If they cannot find it, they cannot buy it
- Conventions forming, but...
- ...It depends

#### **Navigation Stress Test**

- "Randomly" selected (deeper) pages
- Printed out for lower fidelity, no peeking
- Where am I?
- What is here?
- Where can I go?

# Standard "Inspection" Disclaimers

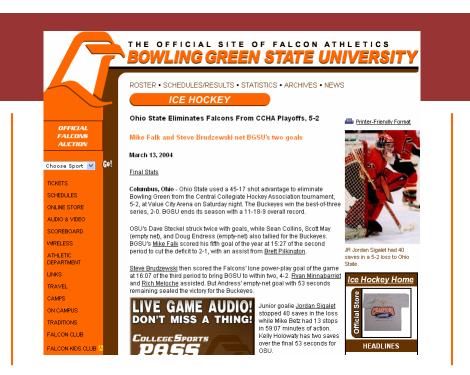
- It depends: users, tasks, site goals, content, competition, technology, resources, ...
- Best: Testing with representative users trying realistic tasks (my 11:00 am talk)
- At least: Inspection guides user research
- Still, useful to "get anal" about it when designing, even if not important in your situation (IMHO)

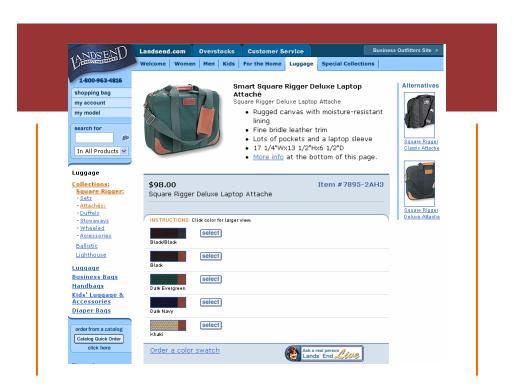
### "Stress test" questions

- What is this page about?
- · What site is this?
- What are the major sections of this site? Which one is this page under?
- What is "up" 1 level from here?
- How do I get to the home page of this site?
- How might you get to this page from the site home page?

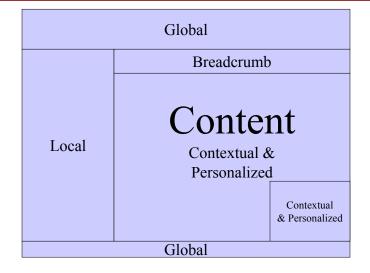
What does each group of links represent?

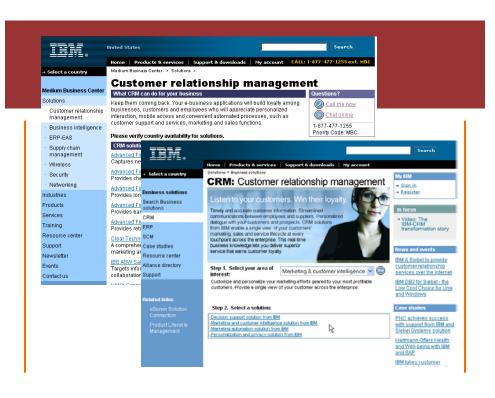
- More details, sub-pages of this one
- Nearby pages, within same section as this page
- Pages on same site, but not as near (in other sections)
- Off-site pages

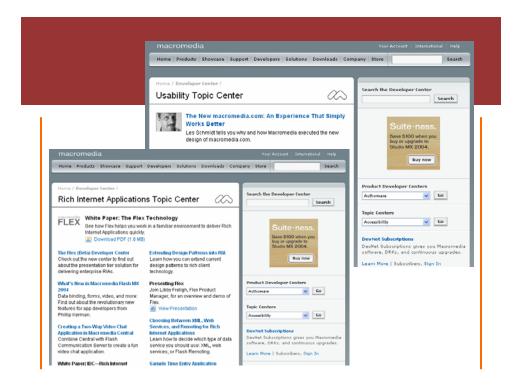




# **Navigation Framework**











### **Global Navigation**

- Site identification, branding
- Major sections
- Utilities
- Almost every page
- Can (should?) change for sub-sites
- Where-am-I indicators

# **Local Navigation**

- Specific to this section of the site
- Varies from section to section, but consistent (hopefully)
- Parental, sibling, child relationships
- Where-am-I indicators



# Questions: Global and Local Navigation

- Global: TLBR?
- When to use tabs for global navigation?
- When is it best to abandon the global nav?
- How does global change for sub-sites?
- Local: TLBR?
- How to make sure users do not confuse them?
- Right level of integration between them?
- Where-am-I indicators: useful?

### **Contextual Navigation**

- Specific to this page
- Cuts across hierarchy (local navigation covers the stuff in the same bucket)
- Hand-crafted and/or automated
- Embedded in the content and/or given its own space on the screen

#### Contextual Link Examples

# Frenzied Friday



Troy fixede socres for Minnesota.

Jason Waldowski
It's onto Saturday, and five automatic NCAA bids on the line, and then some. ... In the premiere matchup of the night, No. 5 Minnesota continued its roll, finally defeating No. 4 Minnesota Duluth 7-4 after five tries, and in the process, perhaps securing a top seed in the NCAAs. The Gophers advance to face North Dakota, a 4-2 winner over Cinderella-story Alaska-Anchorage, in the final. ... In the CCHA, Ohio State knocked off Miami 4-3 in OT, and will face two-time defending champ Michigan, which defeated Northern Michigan, 5-1, ... The ECAC is always wild, and han't disappointed, as the tournament's sixth seed, Harvard, will face the ninth seed, Clarkson, in the final, with an NCAA bid on the line. ... In Hockey East, Massachusetts is bent on throwing the NCAAs for a loop, as it advances to the finals for the first time with a 5-2 win over New Hampshire. It faces Maine, a 1-0 winner over BU .... And Atlantic Hockey finally decides its autobid, when Holy Cross and Sacred Heart square off. Heart square off. WEEKLY COLUMNS

#### Customers who bought this book also bought:

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- Jakob Nielsen
- Jennifer Fleming
- Jessica R. Burdman
- David Siegel
- Steve Krug

REI Gore-Tex Full-Zip Pants -Men's § 175.00



#### Browse more gear

Rainwear -- W/B: Alternative Pants

Waterproof/Breathable Rainwear -- W/B: Gore-Tex Jackets/Pullovers

# Comparison vs. Coordinating Shopping

#### Boys' Full Elastic-waist Chino Pants



Elastic Waist Chinos go on easy, feel good all day.

- ■100% cotton twill, prewashed for softness
- Full-elastic waistband is all-day comfortable
- Zip fly with snap closure simpler for little hands to manage
- ▼ Read More...

#### **Alternatives**



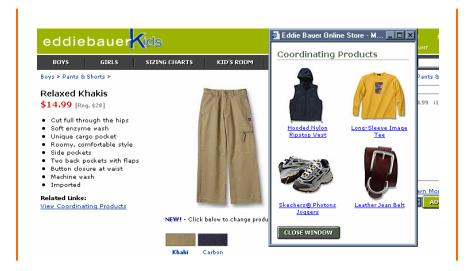
Pleat-Front



Boys' Flat-front Chino Pants

size charts

### Comparison vs. Coordinating Shopping

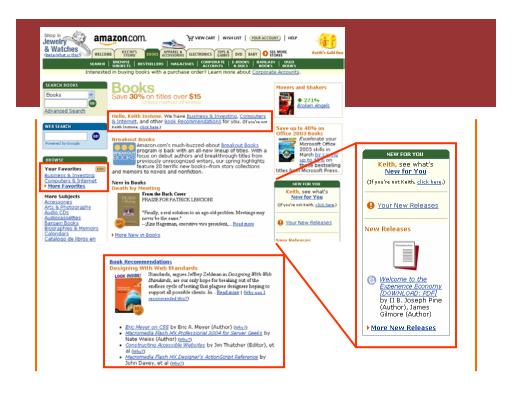


# Questions: Local and Contextual Navigation

- Do users care about differences in local and contextual navigation? Can they tell the difference? Does it matter?
- Should all contextual navigation be embedded within the main content, or should it have its own space?
- How much contextual navigation is worth doing by hand? How useful are the automated recommendations?
- Which is better: comparison shopping (local) or coordination shopping (contextual)? When?

### Personalized Navigation

- Like contextual but based on WHO you are
- "Recommendations"
- Who do you think I am?
- Why is this here?
- What am I missing?



# Warning! More than you ever wanted to hear about breadcrumbs

 Those faint of heart may want to leave now....

#### About Breadcrumbs in General

- Use these definitions and examples to talk more intelligently about breadcrumbs
- Element (links) and Separators (characters)
- <u>First Element</u> > <u>Second Element</u> > <u>Third</u> <u>Element</u> > Last Element
- Last element (optional): Unlinked, title of the page

#### About the 3 Types of Breadcrumbs

The term "breadcrumb" is used for several different concepts – causing confusion during design discussions

- Location Breadcrumb "You are here", static
- Path Breadcrumb how you got here, dynamic
- Attribute Breadcrumb meta-information

### Definition of Location Breadcrumbs

- The single location of this page within the site's hierarchy
- Hard coded best choice for static sites
- Tells users "you are here" not how they got here
- Gives them a way to go "up" to higher sections of the site

#### Yahoo Directory: Everyone's first exposure to breadcrumbs?

Arts & Humanities Literature, Photography...

News & Media

Full Coverage, Newspapers, TV ...

**Business & Economy** B2B, Finance, Shopping, Jobs ...

**Recreation & Sports** Sports, Travel, Autos, Outdoors ...

Computers & Internet

Reference

Home > Computers and Internet >

Internet, WWW,

Libraries, <u>Dictionaries, Quotations</u>...

Regional

Software@

Internet

College and University, K-12...

Countries, Regions, US States...

Statistics and Demographica

Entertainment

Education

Science

• User Groups (22) • WAIS (7)

• Usenet Groups (5)

Cool Links, Movies, Humor, Music... Animals, Astronomy, Engineering...

Social Science Archaeology, Economics, Languages... World Wide Web (1966) №

Elections, Military, Law, Taxes...

Government

Society & Culture

#### Health

Medicine, Diseases, Drugs, Fitness... People, Environment, Religion...

## Yahoo Directory: @ means Transport

#### World Wide Web

- ActiveX@
- Beginner's Guides (37)
- Books@
- Browsers@

- Caching (12) • Chat (167)
- Conferences (24)
- Cookies (15)
- Databases and Searching (12)
- Evaluation (8)
- Gateways (23)
- History (9)
- HTML@
- HTTP (53)
- Imagemaps (16)
- Java@
- JavaScript@

Home > Computers and Internet > Internet >

 $\underline{\mathsf{Home}} > \underline{\mathsf{Business}} \text{ and } \underline{\mathsf{Economy}} > \underline{\mathsf{Shopping}} \text{ and } \underline{\mathsf{Senices}} > \underline{\mathsf{Books}} > \underline{\mathsf{Booksellers}} > \underline{\mathsf{Computers}} > \underline{\mathsf{Intermet}} > \underline{\mathsf{Titles}} > \underline{\mathsf{Titles}} > \underline{\mathsf{Normal Normal Normal$ 

World Wide Web

Yahoo! uses the @ for a transport link - it does not go deeper in the site hierarchy (local) but instead leads to a completely new breadcrumb

(contextual)

### **Common Location Examples**

useit.com → Papers and Essays → Heuristic Evaluation → List of Heuristics

#### **Ten Usability Heuristics**

#### Visibility of system status

The system should always keep users informed about what is going on, through appro Match between system and the real world

The system should sneak the users' language with words inhrases and concents famil

#### Waffle Recipes

New! Submit a Site

You are here: <u>Lifestyle > Hobbies</u> > <u>Cooking</u> > <u>Recipes</u> > <u>Breads & Grains</u> > <u>Breakfast Breads</u> > Waffles

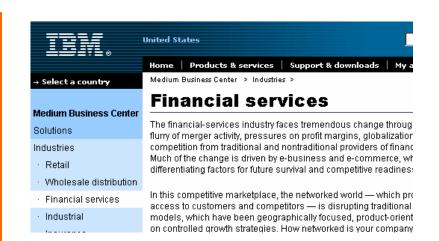
#### Waffle Boy's Domain of the Waffle

Ultimate resource for waffle lovers features a collection of recipes and a historical overview

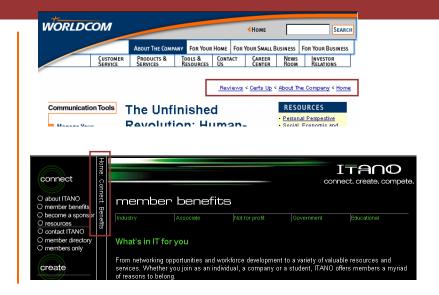
#### Waffle Page

Waffle afficionado gives the history of his favorite breakfast food along with a selection of recipes. Check out the humorous trivia section.

#### **Common Location Examples**

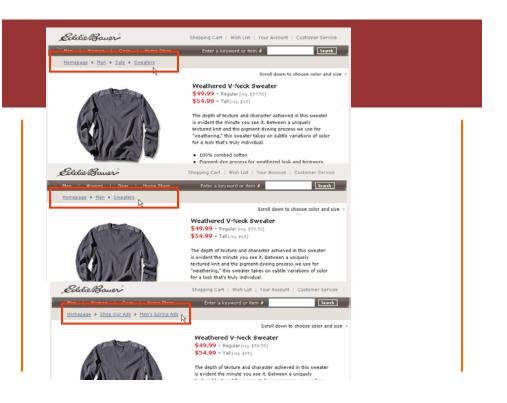


### **Uncommon Location Examples**



#### **Definition of Path Breadcrumbs**

- Like the Hansel-and-Gretel metaphor how you got to the current page
- Same result via different paths = different breadcrumbs
- Possible with dynamic sites that retain some aspect of the user's state



#### **Definition of Attribute Breadcrumbs**

- Breadcrumb does not represent the whole page, but attributes of it
- Meta-information presented in a breadcrumblike manner (instead of as a "flat" keyword)
- Tend to be at the bottom or on the side of the page, or near the object they are describing
- Common in e-commerce sites where each product has a large set of attributes
- Could be either path or location breadcrumbs

# Google results tell you where each link exists within the ODP



#### More Google Results



#### Amazon: 5 attribute breadcrumbs for a toy



# How useful are these sets of attribute breadcrumbs from Amazon?

#### Browse for Tovs • Categories > Activities & Learning > Pretend Play & Dress-Up > Fashion & Beauty > Body Arts • Favorite Characters > Rocky & Bullwinkle Browse for Baby items in: • Categories > Strollers > Full-Size Strollers • Brands > Chicco Browse for music in: • Styles > Children's Music > General **Attributes** Styles > Rock > Progressive > Progressive Rock • Style = General Children's • Music Outlet > Children's Music > CDs \$7 - \$10 Music, Progressive Rock • Music Outlet > Rock > Progressive Rock > CDs \$7 - \$10 • $\underline{\text{Music Outlet}} > \underline{\text{Children's Music}} > \underline{\text{All Bargain Titles}}$ • Price = Bargain, \$7-10 • <u>Music Outlet</u> > <u>Rock</u> > <u>Progressive Rock</u> > <u>All Bargain Titles</u> Browse for books in: • Subjects > Religion & Spirituality > Christianity > Reference > Criticism & Interpretation > New Testament • Subjects > Religion & Spirituality > Christianity > Christian Living > General • Subjects > Religion & Spirituality > Christianity > Bibles > Study Guides, History & Reference > General

#### Faceted browsing

- Interaction style where users filter a set of items by progressively selecting from only valid values of a faceted classification system
- Facet values selected in any order the user wishes
- · Null results are never achieved
- Leverages faceted classification schemes
- "Slow and steady wins the race" interaction (click-page-click-page)
- Model: drill-down choices "naturally" reflect depth so far



#### Browse

Here you may browse more than 16,000 recipes — much as you would leaf through your favorite cookbook for inspiration, only better. As you explore, you may filter and parrow the recipes by category.

MAIN INGREDIENT
Beans, Beef, Berries, Cheese,
Chocolate, Citrus, Dairy, Eggs, Fish,
Fruits, Garlic, Ginger, Grains, Greens,
Herbs, Lamb, Mushrooms, Mustard,
Nuts, Olives, Onions, Pasta, Peppers,
Pork, Potatoes, Poultry, Rice, Shellfish,
Tomatoes, Vegetables

CUISINE
African, American, Asian, Caribbean,
Eastern European, French, Greek,
Indian, Italian, Jewish, Mediterranean,
Mexican, Middle Eastern, Scandinavian,
Spanish

SPECIAL CONSIDERATIONS
Kid-Friendly, Low Fat, Meatless

PREPARATION METHOD Advance, Bake, Broil, Fry, Grill, Marinade, Microwave, No Cook, Poach, Quick, Roast, Sauté, Slow Cook, Steam, Stir Fry

SEASON/OCCASION Christmas, Easter, Fall, Fourth of July, Hanukkah, New Year's, Picnics, Spring, Summer, Superbowl, Thanksgiving, Valentine's Day Winter

course/DISH Appetizers, Bread, Breakfast, Brunch, Condiments, Cookies, Desserts, Hors d'Oeuvres, Main Dish, Salads, Sandwiches, Sauces, Side Dish, Snacks, Soup, Vegetables

#### Preparation method = Microwave Advanced Search PLCUTYOUS The World's Greatest Recipe Collection | Drink | Learn | Shop | Recipes | Restaurants | Bon Appétit | Gourmet | TV | Forums | Travel Refine by : Main Ingredient | Course / Meal | Cuisine | Season / Occasion Dairy (9) Beans (1) Grains (1) Olives (1) Poultry (2) Beef (1) Greens (2) Eggs (1) Onion (3) Rice (2) Berries (1) Fish (2) Herbs (8) Peppers (4) Shellfish (1) Cheese (5) Fruits (4) Mushrooms (2) Pork (3) Tomatoes (4) Chocolate (1) Garlic (1) Nuts (3) Potatoes (9) Vegetables (28) Ginger (4) Citrus (2) Find ARTICHOKES WITH GARLIC SAFFRON SAUCE Search These 54 Recipes Gournet April 1990 O Search All Recipes ARTICHOKES WITH SCALLION TOMATO VINAIGRETTE Gournet April 1992 ADVERTISEMENT BAKED APPLES WITH APRICOT AND WALNUT FILLING Fresh designs FOR VOLER TARLE at Cantambar 1000



#### Course / meal = Main dish Advanced Search Home | Eat | Drink | Learn | Shop | Recipes | Restaurants | Bon Appétit | Gourmet | TV | Forums | Travel ${\bf Browse} \geq {\bf Microwave} \geq {\bf Main\ Dish}$ Refine by : Main Ingredient | Cuisine | Season / Occasion Mushrooms (1) Pork (2) Shellfish (1) Poultry (2) Tomatoes (1) Beef (1) Ginger (1) Onion (2) Cheese (2) Grains (1) Peppers (2) Rice (1) Vegetables (4) Herbs (2) Dairy (1) Find BRAISED PORK CHOPS WITH PEPPERS Gourmet June 1990 Search These 12 Recipes OSearch All Recipes BREAKFAST-FOR-SUPPER TOFU BURRITOS Search Strategies Bon Appétit December 2000 ADVERTISEMENT CHICKEN BREASTS WITH TARRAGON VINAIGRETTE Fresh designs Gammat May 1992

### Scanning the 12 items so far

BRAISED PORK CHOPS WITH PEPPERS
Geurment Juna 1999

BREAKFAST-FOR-SUPPER TOFU BURRITOS

Ban Appétit December 2000

CHICKEN BREASTS WITH TARRAGON VINAIGRETTE
Geurment May 1992

CHINESE-STYLE BRAISED BEEF WITH TURNIPS
GOUTMENT October 1991

COO AU VIN
Geurment December 1990

FILLET OF SOLE WITH LEEK SAUCE
Geurment October 1990

MUSHROOM BRAILEY "RISOTTO"
GOUTMENT November 1992

MUSSELS WITH SHALLOTS AND TARRAGON
GOUTMENT December 1992

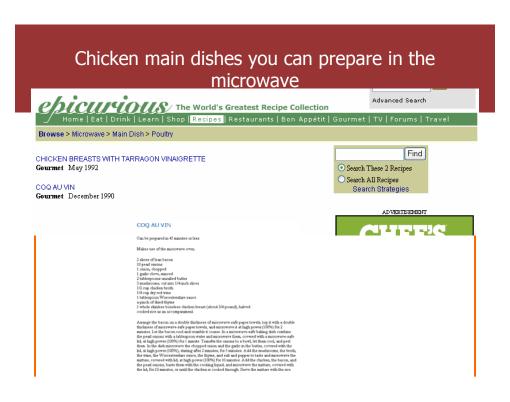
POLENTA WITH VEGETABLES
GOUTMENT JURE 1992

STEAMED FISH FILLETS WITH SCALLION-OINGER OIL
GOUTMENT JURE 1991

TOMATO RISOTTO
MICROWAYE GOUTMENT
Barbara Karlas
WIIIIan Morrow and Co., Inc.

ZUCCHINI WITH JULAPENO MONTEREY JACK
GOUTMENT JULY 1993

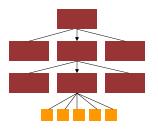
1-12 of 12

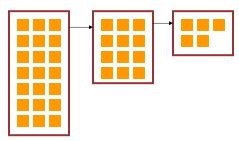


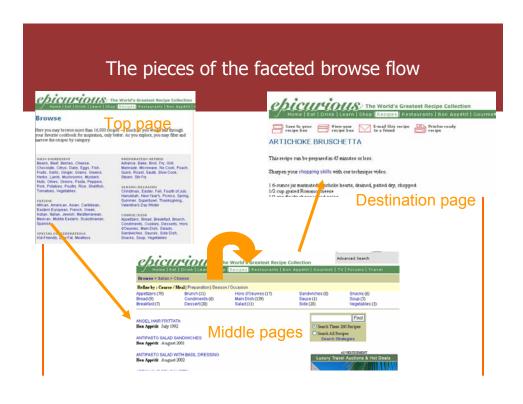
### Part of a trend: Filtering instead of Hierarchies

 Old days: Click-click on categories and finally get to the goodies at the leaf nodes

 Trend: One click, get a sample of results ("1-10 of 149"), select a category to get fewer results





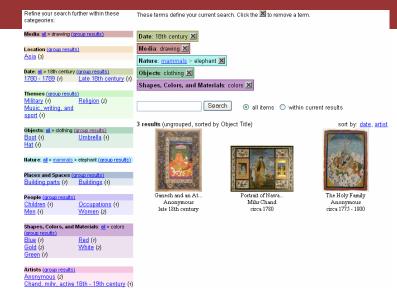


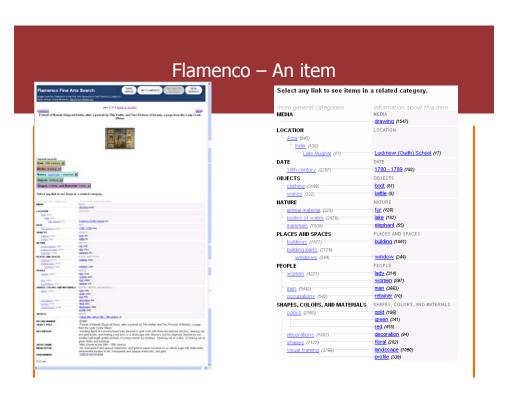


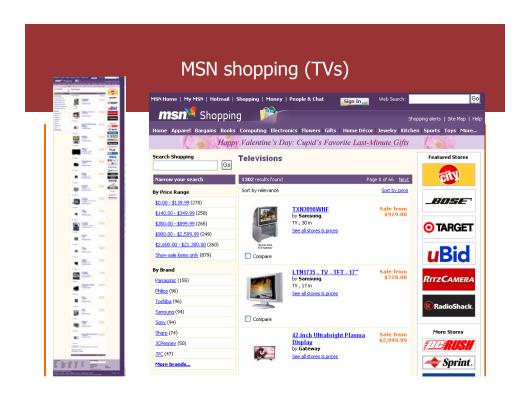
# Flamenco (fine arts database)

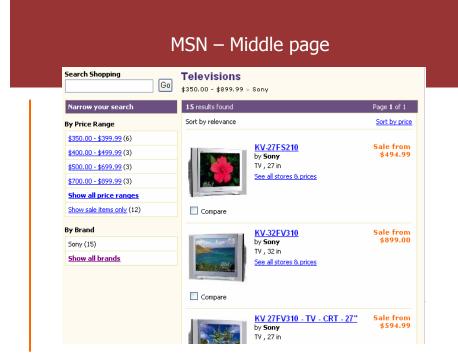


# Flamenco – 3 elephants









#### Recap

- Global common to the site
- Local based on the area of the site
- Contextual based on the page
- Personalized based on who you are
- Breadcrumb 3 types (location, path, attribute)
- Faceted browsing UI for faceted collections

# Thanks for your attention!

This presentation and other stuff about navigation, breadcrumbs, faceted browsing:

http://user-experience.org/