

# Location, Path & Attribute Breadcrumbs

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## Keywords

Breadcrumbs, navigation, World Wide Web, breadcrumb navigation, web navigation, location breadcrumbs, path breadcrumbs, attribute breadcrumbs, where-am-I indicators.

## ABSTRACT

Three type of breadcrumbs on the web are defined, examples are given of each, and a set of research questions involving breadcrumbs are presented. Location breadcrumbs, the most common, show the single location of a page within a site. Path breadcrumbs, which are becoming more common with database-driven sites, show the particular path the user has taken within the site to the page. Attribute breadcrumbs are meta-information within the site that are represented in a breadcrumb-like fashion.

## INTRODUCTION

The purpose of this poster is to define three types of breadcrumbs in order to enable information architects to discuss their design implications more intelligently. Breadcrumbs have evolved to an important navigational aspect of the web, so we need more precise concepts and terminology in order to effectively use breadcrumbs in different situations.

This poster does not advocate the use of breadcrumbs for all sites, but instead hopes to provide designers with the means to use them appropriately. More important, this poster presents a breadcrumb research agenda, a set of questions that we need answered in order to fully understand breadcrumbs' roles within the web sites and the web as a whole.

Breadcrumbs, in general, are a list of *elements* (links) separated by some character or graphic. The *separator* is most often > but : and | are common characters as well. The most common graphic is an arrow pointing to the right.

The design intent of breadcrumbs is usually stated as two-fold: to convey information to the user (about the site structure or the path they have taken), and to also give users a way to select links from the breadcrumb (in order to go "up" in the site hierarchy or to re-trace their steps).

Two generalized examples using > as the separator:

First Element > Second Element > Third Element > Last Element

The First Element usually represents the site home page. Depending on the type of breadcrumb, the second and third elements can be subcategories or selections the user has made to get to the current page. The Last Element usually represents the name of the current page; sometimes this is (erroneously) a link to the current page.

First Element > Second Element > Third Element >

Some breadcrumbs leave off the Last Element and instead put the page title immediately below the breadcrumb.

Breadcrumbs usually go from left to right on the same line, but some go right-to-left and sometimes the elements are arranged vertically. Breadcrumbs are usually placed near the top of the page, with the most common placement being at the top of the "white space", below the top global navigation and to the right of the local navigation on the left.

## LOCATION BREADCRUMBS

Location breadcrumbs convey the position of the page within the site hierarchy. This is the most common type of breadcrumb on the web today because with static pages, this is the only reasonable implementation. Users can often take several different routes to a page, but the breadcrumb will tell them "where they are."

## PATH BREADCRUMBS

Path breadcrumbs represent the original metaphor of the term and show the path the user has taken within the site to get to the current page. The same content from the site can be presented with different breadcrumbs because users can take different routes. With database-driven sites where the page can be dynamic and based on user-state information, path breadcrumbs are becoming more common.

## ATTRIBUTE BREADCRUMBS

Instead of having the breadcrumb represent the location of or path to the current page, some sites use breadcrumb-like navigational features as meta-information to describe components of the site. The most common examples are e-commerce sites that use breadcrumbs as a type of extended keyword to convey product meta-information, such as subject, price, category, style, and brand.

## RESEARCH AGENDA

These are just some of the questions about breadcrumbs that could drive research to help us understand them better.

- Most users describe breadcrumbs as a way to go back to where they have been. Does this path breadcrumb mental model cause problems with the majority of location breadcrumbs that exists on the web today?
- What syntax should be used for breadcrumbs? Where should they be placed on the page?
- When do users not "get" breadcrumbs; are they something that must be learned from Yahoo! first?
- When should a site use location breadcrumbs vs. path? And what are attribute breadcrumbs good for?
- Should only the browser be in charge of the user's path?

# Location, Path & Attribute Breadcrumbs

Poster

[ASIST 3rd Annual IA Summit](#)

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## About Breadcrumbs in General

- Use these definitions and examples to talk more intelligently about breadcrumbs
- Element (links) and Separators (characters)
- First Element > Second Element > Third Element > 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

(When you go home, start using these terms!)

## Attendee Comment

- What do clients think this means? One of our clients thinks breadcrumbs are the footer links.
- Reply: Give them these definitions and tell them that if they do not start using them, I will come over there and give them 40 lashes with a wet noodle.

## About the Research Agenda

- There still are a lot of questions we need answers to re: breadcrumbs
- These definitions do not provide any answers, only more questions
- Ask these question before using breadcrumbs on your site
- If you are a student and want to do your thesis on breadcrumbs, contact me!

## 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

## Attendee Comment

- We used to call location breadcrumbs “depth maps” to distinguish them from real (path) breadcrumbs that are more computationally expensive
- Reply: What other terms have people used for the various types of breadcrumbs?



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

## [Arts & Humanities](#)

[Literature](#), [Photography](#)...

## [Business & Economy](#)

[B2B](#), [Finance](#), [Shopping](#), [Jobs](#)...

## [Computers & Internet](#)

[Internet](#), [WWW](#), [Software](#), [Games](#)...

## [Education](#)

[College and University](#), [K-12](#)...

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[Elections](#), [Military](#), [Law](#), [Taxes](#)...

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[Medicine](#), [Diseases](#), [Drugs](#), [Fitness](#)...

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## [Recreation & Sports](#)

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## [Society & Culture](#)

[People](#), [Environment](#), [Religion](#)...

[Home](#) > [Computers and Internet](#) >

## Internet

- [Software@](#)
- [Statistics and Demographics](#) (32)
- [User Groups](#) (22)
- [WAIS](#) (7)
- [World Wide Web](#) (1966) **NEW!**
- [Usenet Groups](#) (5)

# Yahoo Directory: @ means Transport

[Home](#) > [Computers and Internet](#) > [Internet](#) >

## 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)
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- [HTML@](#)
- [HTTP](#) (53)
- [Imagemaps](#) (16)
- [Java@](#)
- [JavaScript@](#)

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World Wide Web

Yahoo! uses the @ for a **transport** link (does not go deeper in the site hierarchy and leads to a completely new breadcrumb)

# 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 appropriate feedback within the system.

### Match between system and the real world

The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow platform conventions.

## Waffle Recipes

**New!** [Submit a Site](#)

You are here: [Lifestyle](#) > [Hobbies](#) > [Cooking](#) > [Recipes](#) > [Breads & Grains](#) > [Breakfast Breads](#) > 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 aficionado gives the history of his favorite breakfast food along with a selection of recipes. Check out the humorous trivia section.

# Location Examples: Left-Right, Top-Down, Right-Left

**e-greetings.com**  
Home • Sign In • Join • Index • Help

Answer the following question for a chance to win \$1,  
What country is Arnold Schwarzenegger  
o Germany o Austria o Switz

Cards Music Scene Gift Shop Contests Members

Welcome to Have a Nice Day!

**Keep in Touch**  
Home > **Keep in Touch** > Have a Nice Day

Most Popular  
Blank  
Call Me  
▶ **Have a Nice Day**  
Hello  
Miss You  
Share a Smile  
Thinking of You  
What's Up  
Write Me

**Have a Nice Day (7 cards)**

**Flash**  
Penguin Skates

**Interactive**  
Dress Me Up!

**WORLD.COM**

HOME [SEARCH]

	ABOUT THE COMPANY	FOR YOUR HOME	FOR YOUR SMALL BUSINESS	FOR YOUR BUSINESS		
CUSTOMER SERVICE	PRODUCTS & SERVICES	TOOLS & RESOURCES	CONTACT US	CAREER CENTER	NEWS ROOM	INVESTOR RELATIONS

[Reviews](#) < [Cerfs Up](#) < [About The Company](#) < [Home](#)

**Communication Tools**

**The Unfinished Revolution: Human-**

**RESOURCES**

- [Personal Perspective](#)
- [Social, Economic and](#)

**BBC ONLINE**  
Text only

MONDAY  
13th August 2001

[A-Z Index](#) | [Search](#)

Main Sites [v]  
Go

- [BBC Homepage](#)
- [Homes](#)
- [Antiques](#)
- ▶ [Roadshow](#)
- [Expert Advice](#)
- [Clubs](#)
- [FAQs](#)
- [Venues](#)
- [Experts](#)
- [On Air](#)
- [Roadshow Finds](#)
- [Valuations](#)
- [Video Quiz](#)
- [Next Generation](#)

## Attendee Comment (Matt from the BBC)

- The old BBC vertical breadcrumbs were NOT useful to people
  - Inconsistently created and named because they were manually entered
  - Located in a blindspot on the page
- Biggest result from testing was that horizontal breadcrumbs were “something all websites have, but I do not really pay attention to”.

# Research Agenda: What syntax / layouts are "standard"?

[useit.com](#) → [Alertbox](#) → June 2001 PDF

[Jakob Nielsen's](#) Alertbox, June 10, 2001:

## Avoid PDF for On-Sc

**NN/g** NN/g useit.com ind.org AskTog  
Nielsen Norman Group

Strategies to enhance the user experience

[Home](#) [People](#) [Services](#) [Publications](#) [Events](#) [About NN/g](#)

[NN/g Home](#) > [Publications](#) > Locator Usability Report

[NN/g Home](#) → [AskTog](#) → Basics → Maximizing Human Performance

[Don Norman Home Page](#) | [Publications](#) | The Perils of Home Theater

[Course Catalog](#): [E-Commerce](#): Internet User Experience Suite

Top left, arrows

Right side, >, under  
Global navigation

Arrows

Vertical bars

Colons

## Attendee Comment

- Do you include the page you are on in the breadcrumb (unlinked, of course)?
- Reply: It depends, I have seen it work with and without the page title as the last element of the breadcrumb.
- It depends on the visual layout – where the actual page title falls wrt the breadcrumb. Krug says NOT to use the last element as a substitute for the page title – I tend to agree.

# Research Agenda: Location (2) – When do users not get breadcrumbs?

The image shows a screenshot of the e-greeting.com website. At the top left is the logo "e-greeting.com" with a navigation menu: [Home](#) · [Sign In](#) · [Join](#) · [Index](#) · [Help](#). A dropdown menu is open, listing categories: Find more cards, Holidays, Keep in Touch, Friendship, Love & Dating, Birthday (highlighted), Share a Laugh, Inspire & Encourage, Comfort & Support, Events & Occasions, and Invitations & RSVPs. A breadcrumb trail at the bottom reads: [Home](#) | [Birthday](#) | [Family Birthday](#) | [For Wife](#). A second breadcrumb trail is shown below: [Home](#) > [Birthday](#) > [Family Birthday](#) > [For Wife](#). The page content includes a sidebar with links like "Most Popular", "Belated", "Birthday Fun", "Birthday Love", and "Family Birthday" (with sub-links for Mom, Dad, Daughter). The main content area shows "For Wife (2 cards)" with a page number "1" and two card thumbnails.

Home | Birthday | Family Birthday | For Wife

Home > Birthday > Family Birthday > For Wife

For Wife (2 cards)

1



## Attendee Comment

- Our user test findings: some did not get the idea of hierarchy from the breadcrumb, but some did. All understood that the breadcrumb elements were more related links that they could click on.
- Reply: Good, send me more results from other user testing, please!

## 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

# Epicurious (1): Faceted browsing

## 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,  
Saute, Slow Cook, Steam, Stir Fry

## Season/Occasion

Christmas, Easter, Fall, Fourth of July, Hanukkah,  
New Years, 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

- Main ingredient = Mushrooms
- Cuisine = Asian
- Course/dish = Soup

# Epicurious (2): 6 breadcrumbs for the same end result

[Browse](#) > [Mushrooms](#) > [Asian](#) > [Soup](#)

1 - 3 of 3

[CHINESE-STYLE SPINACH AND MUSHROOM SOUP](#)

**Bon Appétit** October 1997

[HOT AND SOUR SOUP WITH GINGER](#)

**Bon Appétit** April 1994

[SHIITAKE BOK CHOY SOUP WITH NOODLES](#)

**Gourmet** February 1999

[Browse](#) > [Soup](#) > [Asian](#) > [Mushrooms](#)

1 - 3 of 3

[CHINESE-STYLE SPINACH AND MUSHROOM SOUP](#)

**Bon Appétit** October 1997

[HOT AND SOUR SOUP WITH GINGER](#)

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[SHIITAKE BOK CHOY SOUP WITH NOODLES](#)

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[SHIITAKE BOK CHOY SOUP WITH NOODLES](#)

**Gourmet** February 1999

[Browse](#) > [Soup](#) > [Mushrooms](#) > [Asian](#)

1 - 3 of 3

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**Bon Appétit** April 1994

[SHIITAKE BOK CHOY SOUP WITH NOODLES](#)

**Gourmet** February 1999

[Browse](#) > [Asian](#) > [Soup](#) > [Mushrooms](#)

1 - 3 of 3

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[SHIITAKE BOK CHOY SOUP WITH NOODLES](#)

**Gourmet** February 1999

[Browse](#) > [Mushrooms](#) > [Soup](#) > [Asian](#)

1 - 3 of 3

[CHINESE-STYLE SPINACH AND MUSHROOM SOUP](#)

**Bon Appétit** October 1997

[HOT AND SOUR SOUP WITH GINGER](#)

**Bon Appétit** April 1994

[SHIITAKE BOK CHOY SOUP WITH NOODLES](#)

**Gourmet** February 1999

## Attendee Comment (Rashmi)


- Epicurious breadcrumbs were not confusing in a usability study we did as part of Flamenco
- See <http://bailando.sims.berkeley.edu/flamenco.html>

# Path Examples (1): 3 ways to Marvin Gaye

**hot ARTISTS** [Home](#) > [Hot Artists](#) > Marvin Gaye

- [98°](#)
- [Christina Aguilera](#)
- [Nelly](#)
- [Eminem](#)
- [Outkast](#)
- [Dido](#)
- [Kid Rock](#)
- [LL Cool J](#)
- [blink-182](#)
- [The Wallflowers](#)
- [Enrique Iglesias](#)
- ▶ **Marvin Gaye**
- [George Strait](#)
- [SR-71](#)
- [Kristine W.](#)

**Marvin Gaye**



1 cards >>

**Most Recent Album:**  
*Smooth Grooves: The Essential Collection*

**Artist Finder** [Home](#) > [Artist Finder](#) > Gaye, Marvin


▶ **Gaye, Marvin**

artist finder

98°  
AC/DC  
A\*Teens  
Ace of Base  
Adams, Yolanda  
Aguilera, Christina

go >>

**Gaye, Marvin**




1 cards >>

**Most Recent Album:**  
*Smooth Grooves: The Essential Collection*

**R & B / Hip Hop** [Home](#) > [R & B / Hip Hop](#) > Marvin Gaye

- [Nelly](#)
- [Eminem](#)
- [Outkast](#)
- [LL Cool J](#)
- [Boyz II Men](#)
- ▶ **Marvin Gaye**
- [P!nk](#)
- [Jay-Z](#)
- [SisQo](#)
- [Donell Jones](#)
- [Tarsha Vega](#)
- [Tamar Braxton](#)
- [Toni Braxton](#)


**Marvin Gaye**



1 cards >>

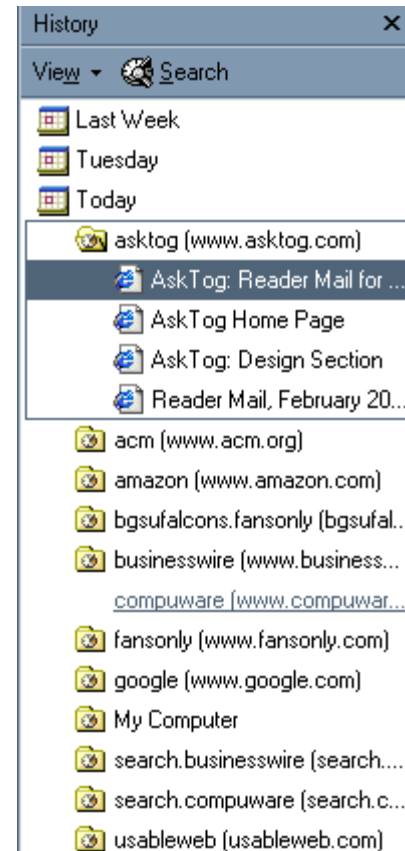
**Most Recent Album:**  
*Smooth Grooves: The Essential Collection*

# Path Examples (2): Search vs. Browse Paths

<u>Navigation</u>	<u>Guide Information</u>	<u>Navigation</u>	<u>Guide Information</u>
<a href="#">Search/Browse</a>	<a href="http://www.iupui.edu/~webtrain/">http://www.iupui.edu/~webtrain/</a>	<a href="#">Search/Browse</a>	<a href="http://members.xoom.com/rjtiess/links.htm">http://members.xoom.com/rjtiess/links.htm</a>
<a href="#">Main Page</a> ▼	<b>Keywords</b> <a href="#">HTML (HyperText Markup Language)</a> , <a href="#">Web design</a>	<a href="#">Main Page</a> ▼	<b>Keywords</b> <a href="#">astronomy (general)</a>
<a href="#">Computers and Information Technology</a> ▼	<b>Compiled by</b> Cynthia D. Hollingsworth (cholling@iupui.edu) Client Services Consultant Indiana University-Purdue University Indianapolis	<a href="#">Search Results</a> ▼	<b>Compiled by</b> Robert J. Tiess (rjtiess@warwick.net) Creator & Webmaster Cosmic Context
<a href="#">Internet and networking</a> ▼		<a href="#">Guide Information</a>	
<a href="#">HTML (HyperText Markup Language)</a> ▼			
<a href="#">Guide Information</a>	<b>Rating</b> Overall: 		

## Research Agenda: Path (1)

- Who is responsible for the user's path: the browser or the site?





## Research Agenda: Path (2)

- When are path vs. location breadcrumbs appropriate?
- Does it depend on the information architecture of the site (e.g., hierarchy vs. database), user's goals, type of user, type of site, ...?

## Attendee Comment

- When do you STOP adding elements to the path breadcrumb? What if a user settled in for an hour's browsing through the site – the path breadcrumb could take up the entire page.
- Reply: Yep, so it is better to let the browser handle the WHOLE path – your path breadcrumb might only handle the path within a smaller part of the site.

## Attendee Comments

- What if a page could live in more than one place and you can't choose a "buddha place" – all are equally valid. Example, Service A lives in 3 places and you do not want to pick 1 as the default location:
- Consulting > Services > Implementation > Service A
- Consulting > Services > Optimization > Service A
- Consulting > Services > Upgrade > Service A
- Should you cut off the breadcrumb at a higher level, like "Consulting > Services"?
- My answer....

## Answer to Previous Question

- In this case, do not use LOCATION breadcrumbs – use Path or Attribute instead.
- This is exactly why we need more detailed definitions for breadcrumbs.
- And, no, do not cut off your breadcrumbs at a higher level – it makes them useless.

## Definition of Attribute Breadcrumbs

- Breadcrumb does not represent the whole page, but attributes of it
- Meta-information presented in a breadcrumb-like 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 (1): Search results tell you where each link exists within the ODP

Advanced Search Preferences Language Tools Search Tips

Google™

The "AND" operator is unnecessary -- we include all search terms by default. [\[details\]](#)

[Web](#) [Images](#) [Groups](#) [Directory](#)

Searched the web for **monty python and the holy grail**. Results **1 - 10** of about **53,900**. Search took **0.06** seconds.

[Welcome to PythOnline!!](#)  
Continue.  
Category: [Games](#) > [Video Games](#) > ... > [Adventure](#) > [Graphical Adventures](#) > [Monty Python Games](#)  
[www.pythononline.com/](#) - 2k - [Cached](#) - [Similar pages](#)

[Monty Python & the Quest for the Holy Grail Game Hints](#)  
... site on the Web. This site is dedicated to providing hints for the 7th Level game:  
**Monty Python & the Quest for the Holy Grail**. Stop spanking those virgins ...  
Description: Hyperlinked hints, information, and a walkthrough  
Category: [Games](#) > [Video Games](#) > ... > [Monty Python and the Quest for the Holy Grail](#)  
[home.europa.com/~esk/HGrail/welcome.html](#) - 8k - [Cached](#) - [Similar pages](#)

[Monty Python's Flying Circus](#)  
... Brain Specialists. ... Search for the **Holy Grail**. Or for  
Mice. ... Who is this "**Monty Python**"? "**Monty Python** ...  
Description: Includes an episode guide, and also a small but searchable compendium of transcribed clips from the  
Category: [Regional](#) > [Europe](#) > ... > [Programmes](#) > [Comedy](#) > [Monty Python's Flying Circus](#)  
[bau2.uibk.ac.at/sg/python/monty.html](#) - 6k - [Cached](#) - [Similar pages](#)

The video game company

The video game

The TV show

# Google (2)

## CINEMA

CINEMA. "**Monty Python's Holy Grail**". This is english crazy movie. Do you understand these "BAKA" scenes? ...

Description: Lego-modeled version of stills from "**Monty Python** and the **Holy Grail**".

Category: [Arts > Movies > Titles > M > Monty Python and the Holy Grail](#)

[www.geocities.co.jp/Hollywood/9060/holye.html](http://www.geocities.co.jp/Hollywood/9060/holye.html) - 5k - [Cached](#) - [Similar pages](#)

The movie

## Monty Python and the Holy Grail CCG homepage

... What if my local store does not stock **Monty Python** and the **Holy Grail**??? ... Check out what people are saying about **Monty Python** & the **Holy Grail** CCG Endorsements. ...

Description: King Arthur, Sir Lancelot the Brave, and Sir Robin, are featured along with the rest of the outrageous...

Category: [Games > Trading Cards > Monty Python and the Holy Grail](#)

[members.aol.com/relkin/mphgmain.htm](http://members.aol.com/relkin/mphgmain.htm) - 6k - [Cached](#) - [Similar pages](#)

Trading cards

## MontyPython.net The Ultimate Monty Python Site

... sale by the time you read this. The long-awaited special edition of **Monty Python** and the **Holy Grail** is widely available both online and in many video and music ...

Description: Massive script and sound site for all things **Python**.

Category: [Regional > Europe > ... > Performing Arts > Comedy > Monty Python](#)

[www.montypython.net/](http://www.montypython.net/) - 18k - [Cached](#) - [Similar pages](#)

The (British) comedy troupe

[Regional](#) > [Europe](#) > [United Kingdom](#) > [Arts and Entertainment](#) > [Performing Arts](#) > [Comedy](#) > Monty Python

# Amazon (1): 5 attribute breadcrumbs for a toy

The screenshot shows the Amazon.com website interface. At the top, the Amazon logo is on the left, and navigation links for 'VIEW CART', 'WISH LIST', 'YOUR ACCOUNT', and 'HELP' are on the right. Below this is a row of category buttons: 'WELCOME', 'YOUR STORE', 'TOYS & GAMES', 'BABY', 'KIDS' VIDEO GAMES', 'KIDS' BOOKS', 'KIDS' MUSIC', 'KIDS' VIDEO', 'ALL KIDS' STORES', and 'SEE MORE STORES'. A large purple banner for 'TOYSRUS.COM' is prominently displayed, with sub-sections for 'TOY FINDER', 'AGE RANGES', 'BROWSE CATEGORIES', 'TOYS OUTLET', 'LEARNING TOYS', and 'VIDEO GAMES'. On the left, a search box is set to 'Toys & Games' with a 'GO!' button and a link to 'Search by Keyword or Online Item Number'. The main product area features the title 'LEGO Town Polar Base (6575) by LEGO Systems, Inc.' with an image of the toy set. Pricing information shows a list price of \$59.99, a current price of \$49.98, and a savings of \$10.01 (17%). Availability is noted as 'Usually ships within 24 hours'. On the right, a 'READY TO BUY?' section includes an 'Add to Shopping Cart' button with a note that it can be removed later, and an 'OR USE 1-CLICK' option. Below the product information, a 'TOY INFORMATION' section is partially visible.

## Browse for [Toys](#)

- [Age Ranges](#) > [5-7 Years](#) > [Blocks & Building](#)
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- [Age Ranges](#) > [12-14 Years](#) > [Construction](#)
- [Brands](#) > [LEGO](#) > [Arctic](#)
- [Outlet](#) > [Blocks, Building Sets & Models](#)



# Amazon (2): How useful are these sets of attribute breadcrumbs from Amazon?

## Browse for **Toys**

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- [Favorite Characters](#) > [Rocky & Bullwinkle](#)

## Browse for **Baby** items in:

- [Categories](#) > [Strollers](#) > [Full-Size Strollers](#)
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- [Styles](#) > [Children's Music](#) > [General](#)
- [Styles](#) > [Rock](#) > [Progressive](#) > [Progressive Rock](#)
- [Music Outlet](#) > [Children's Music](#) > [CDs \\$7 - \\$10](#)
- [Music Outlet](#) > [Rock](#) > [Progressive Rock](#) > [CDs \\$7 - \\$10](#)
- [Music Outlet](#) > [Children's Music](#) > [All Bargain Titles](#)
- [Music Outlet](#) > [Rock](#) > [Progressive Rock](#) > [All Bargain Titles](#)

## Attributes

- Style = General Children's Music, Progressive Rock
- Price = Bargain, \$7-10

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# Research Agenda: Attribute (1)

- When are simple keywords better than attribute breadcrumbs?

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## Research Agenda: Link for each element?

- Should each element be a link in attribute breadcrumbs, or should it all be one link?
- Do users really need to be able to jump to *any* part of the path?

## Attendee Comments

- Might be easy to do attribute breadcrumbs in Zope
- Reply: Thanks – are there any tools that support all 3 types of breadcrumbs “out of the box”?