



Design for **Context**

Making software applications and web sites easy to use

# User Interface Design Trends for Faceted Search

Duane Degler

Design for Context

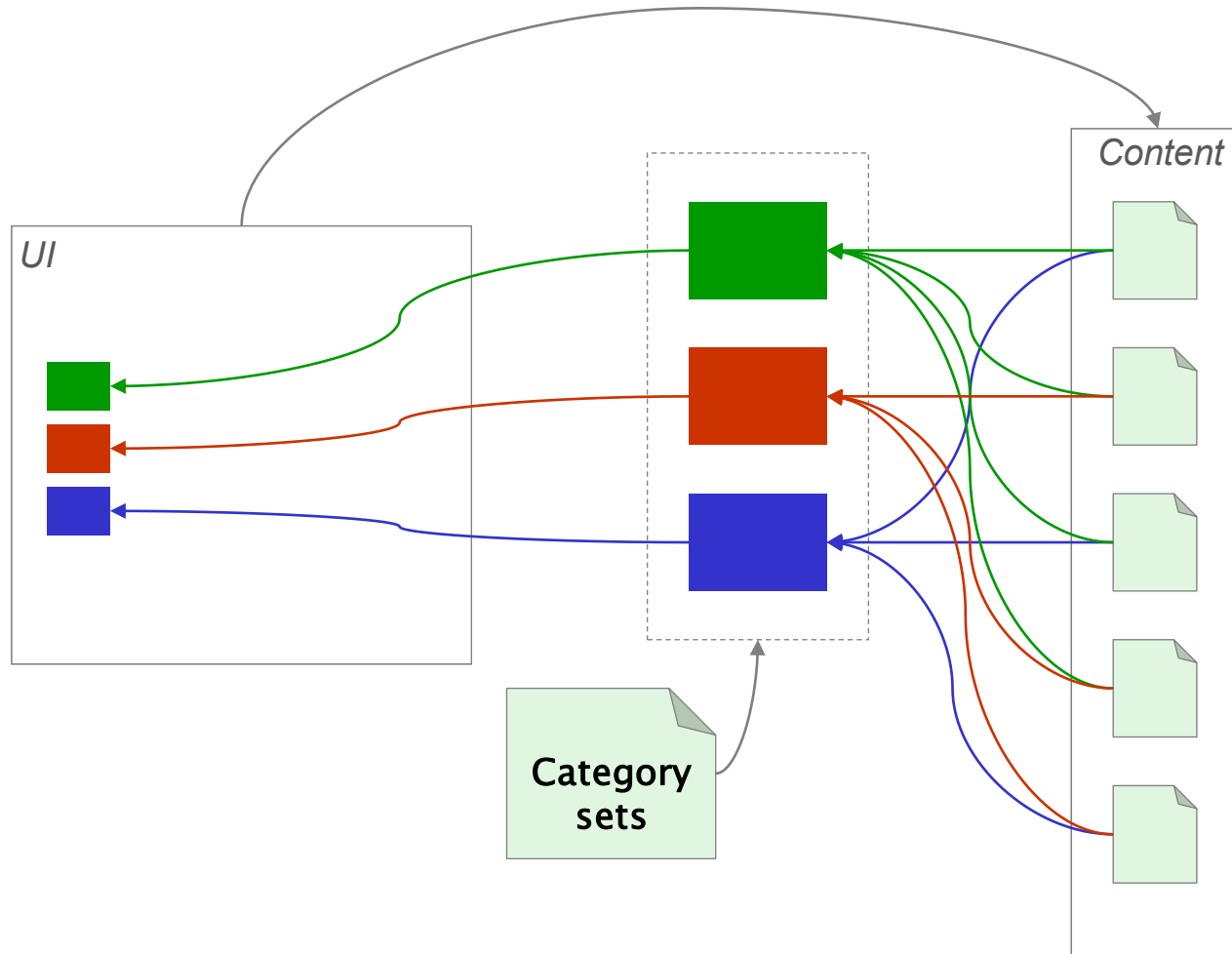
[www.DesignForContext.com](http://www.DesignForContext.com)

# Overview

- Goal: Increase relevance for the user
- Two interactions:
  - Refinement is about starting with large sets and narrowing... a *relevance* funnel
  - Browsing is about *exploring the structure* of data to find areas of interest
- Common uses:
  - eCommerce / catalogs
    - Lots of structured data, complete, curated
  - Large, structured information spaces
    - Again, lots of structured data, somewhat complete, curated
  - Mobile search
    - Controls to refine user relevance
- Implicit expectation–setting
  - Help the user understand the scope and focus of information space



# Facet Refinement



# Simple list



## SHOP CATEGORY

Audio (12)  
Magnolia Home Theater (10)

## YOU'VE SELECTED:

Price: \$750 - \$999.99  
[Remove]  
Collection: Magnolia Home Theater  
[Remove]  
Clear all selections

## NARROW YOUR RESULTS BY:

Check Stock In Stores Near Me BETA

Customer Reviews  
Top-Rated (1)  
Current Offers  
On Sale (2)  
Financing Offers (22)  
Brand  
Marantz (4)  
Onkyo (4)  
Pioneer Elite (4)



# Layered

Preferences

Buying formats

Auction  
 Buy It Now  
[Choose more...](#)

Show only

Completed listings  
 Free shipping  
[Choose more...](#)

Location

US Only  
 North America  
 Worldwide  
[Choose more...](#)

Distance

US Only  
 North America  
 Worldwide  
[Choose more...](#)

[Customize preferences](#)

Preferences

Location

on eBay.com  
 US Only  
 North America  
 Worldwide

Buying formats

Auction  
 Buy It Now  
 Classified ads

Distance

No preferences  
 Within  miles of ZIP   
or

Show only

Completed listings  
 Free shipping (20,497)  
 With PayPal accepted (43,749)  
 Listed as lots (102)  
 Eligible for Microsoft cashback  
 Accepts best offer  
 Sale items  
 eBay Giving Works  
 Multiple item listings from  to   
 Get It Fast  
 Listings: Ending within   
 Number of bids  to



# Hierarchy

Department

< Any Department

< Books

**Biographies & Memoirs**

- Arts & Literature (107)
- Memoirs (2)
- Ethnic & National (27)
- Specific Groups (5)
- Historical (4)
- Reference & Collections (2)
- People, A-Z (3)
- Regional U.S. (1)

---

Format

< Any Format

**Printed Books**

---

Binding

**Any Binding**

- Paperback (94)
- Hardcover (39)

# What type of interaction?



▼ Online Media

Frequency  Alphabetical

Finding aids	+	-	(22)
Images	+	-	(13)
Online collections	+	-	(4)

▼ Type

Frequency  Alphabetical

Archival materials			
Collection descriptions			
Photographs			
Drawings	+	-	(14)
Manuscripts	+	-	(12)
Scrapbooks	+	-	(12)
Works of art	+	-	(11)
Brochures	+	-	<b>exclude term</b>
Clippings	+	-	(10)
Sketchbooks	+	-	(8)

[see all](#)

# Query

## NARROW YOUR CHOICES

▶ SUBCATEGORY

▶ SIZE

▼ WIDTH

3E 4A 4E A AA  
AAA B C D E  
EE OS

▶ COLOR

▶ BRAND



▶ SUBCATEGORY

▶ COLOR

▶ BRAND

▶ HEEL HEIGHT

▶ PRICE

# Progressive

# Multi-select

Discipline	2	Relationship	1	Shared?
5 Chemistry	<input checked="" type="checkbox"/>	16 alumni	<input checked="" type="checkbox"/>	4 no 12 yes
6 Economics	<input type="checkbox"/>	11 professor	<input type="checkbox"/>	
3 Medicine/Physiology	<input type="checkbox"/>	13 research	<input type="checkbox"/>	
11 Physics	<input checked="" type="checkbox"/>			

# Exhibit



# Some Design Questions



Shoes >  Womens >  Casual >  Shoes >  Red >  Medium (1 3/8in - 2 1/2in)  
111 items found

Narrow Your Choices

<input checked="" type="checkbox"/> All Subcategories Heels (60) Clogs and Mules (35) Loafers (13) Flats (3) Sneakers and Athletic Shoes (2)	<input checked="" type="checkbox"/> All Sizes 4 4.5 5 5.5 6 6.5 7 7.5 8 8.5 9 9.5 10 10.5 11 11.5 12 12.5 13 13.5 14 14.5 15	<input checked="" type="checkbox"/> All Widths AA B C D E EE	<input checked="" type="checkbox"/> All Brands Aerosoles (3) Annie (1) Aravon (1) Ariat (2) Bella-Vita (1) Bouquets (1) Charlie One Horse by Luchese (1) Chateau Minkadee (1)
---	---	--	---

NARROW YOUR CHOICES

SUBCATEGORY

Sneakers and Athletic Shoes (2492)  
Flats (2299)  
Heels (1574)  
Clogs and Mules (1445)  
Loafers (754)  
Oxfords (403)  
Boat Shoes (83)

SIZE

3 3.5 4 4.5 5  
5.5 6 6.5 7 7.5  
8 8.5 9 9.5 10  
10.5 11 11.5 12 12.5  
13 13.5 14 14.5 15  
16 17 18 19 20  
OS

WIDTH

3E 4A 4E AA AAA  
B C D E EE  
OS

COLOR

BRAND

5Th Avenue LX (4)  
7 For All Mankind (11)  
A. Marinelli (12)  
A. Testoni (1)  
Acorn (5)  
Adidas (2)  
Adidas by Stella  
McCartney (15)  
Adidas Originals (56)  
Adidas Y-3 by Yohji

- *Focuses user attention*
- *Guides novice users through category scheme*

## Top or Column?

- *More flexible real estate*
- *Doesn't impede the user from their main goal ~ the content*
- *Commonly used*



# User controls & visibility

**Flight Times**

Take-off  Landing

**Take-off (Depart Flight)** [show all](#)

Sat 6:00a - 3:12p

**Landing (Depart Flight)** [show all](#)

Sat 7:30a - Sun 12:00a

**Take-off (Return Flight)** [show all](#)

Mon 12:22p - 9:00p

**Landing (Return Flight)** [show all](#)

Mon 7:00a - Tue 12:00a

**Flight Quality**

! Depart/Return, same airports

Wi-Fi Available

**Aircraft Type**

Turbo-prop Plane

Regional Jet

Narrow-body Jet

**Layover Duration** ⓘ

0h 25m to 5h 40m

**Trip Duration** ⓘ

1h 10m to 4h 09m

**Stops** ▼

nonstop **\$209**

[Look for more stops](#)

→

**Stops** ? ▼

**Filters:** **Stops** ✕ **Flight Times** ✕ **Depart/Return, same airports** ✕ **Price** ✕

**Time Period**

Day Week Month **90 Days** Year All

[Let me set a date range](#)

**Set date range** close ✕

From: 10/11/2010

To: 10/15/2010

Date Format is mm/dd/yyyy

**Set Range** **Cancel**

**What I did** | **What I did (breadcrumb)**

\_\_\_\_\_ | \_\_\_\_\_

← *Clear here?*

**Facets**


\_\_\_\_\_

\_\_\_\_\_

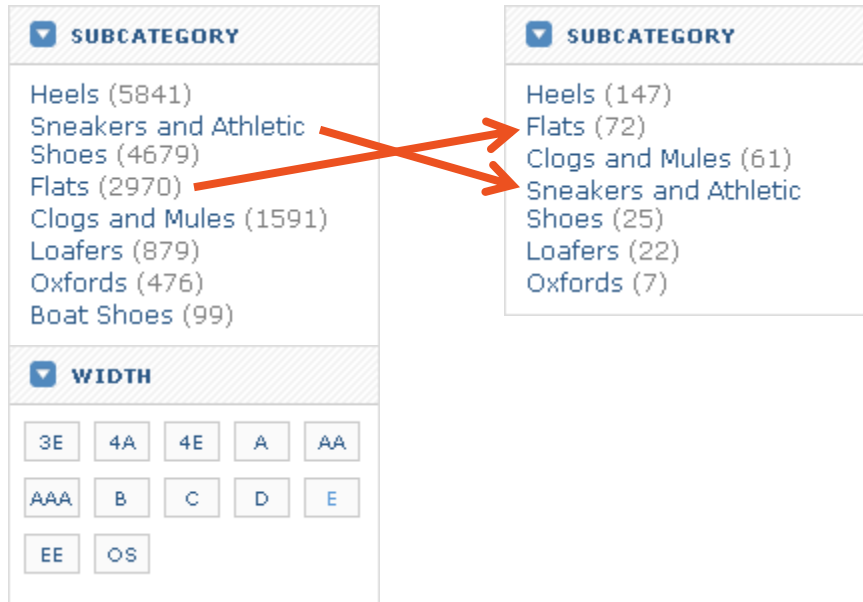
\_\_\_\_\_

\_\_\_\_\_

← *Select here...*



# Predictability



▼ Ease of use ⓘ

▶ Airflow left ⓘ

▶ Airflow right ⓘ

**Features**

▼ Btu/hr. ⓘ

5000 5000 - 9490 12100

▶ EER ⓘ

▼ Min window width (in.) ⓘ

21 23 - 30 30

▼ Max window width (in.) ⓘ

33 36 - 39 42

▶ Weight (lbs.) ⓘ

▼ Remote control ⓘ

Yes  No  Don't care

ConsumerReports.org

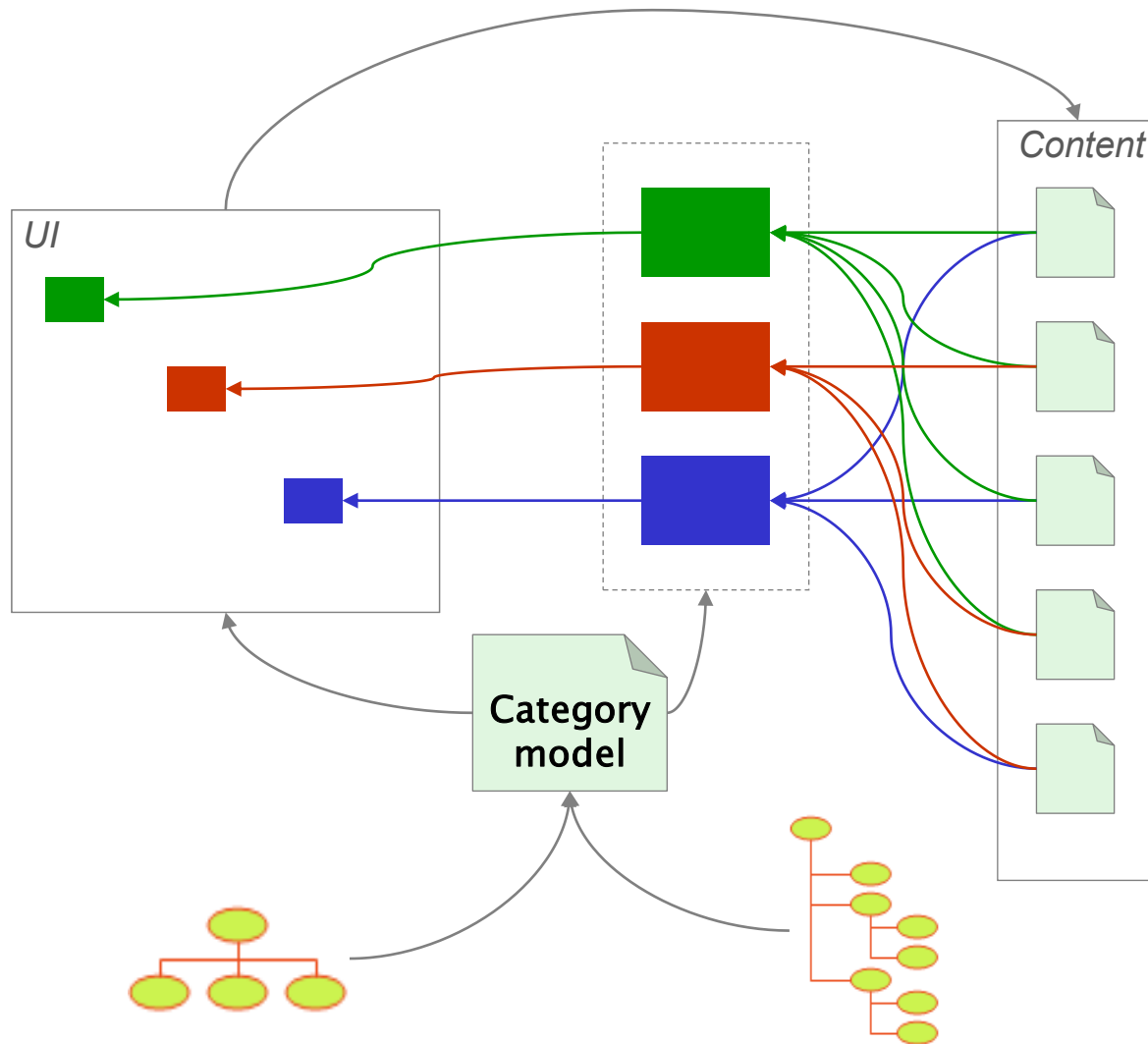




## Other Faceted Interfaces



# Facet Browsing – follow model relationships



# Interacting with models

## Expanding



Stops ▾

nonstop \$209

[Look for more stops](#)



Stops ▾

nonstop \$209

1 stop \$231

2+ stops

## Anticipating hierarchy

flamenco search

**LOCATIONS**

- [Africa](#) (1440)
- [Antarctica](#) (37)
- [Asia](#) (2864)
- [Australasia & Pacific Islands](#) (186)
- [Central America](#)
- [Eastern Europe](#)

Subcategories:

- Queensland
- New South Wales
- Canberra
- Ayers Rock
- Adelaide Foothills, nr
- New Zealand
- Melbourne
- MacDonnell Ranges
- Yirrkala
- Kempsey
- Papua New Guinea
- Kakadu
- Oceania
- Victoria

**STRUCTURE**

- [architectural elements](#)
- [book elements](#)
- [buildings \(by design\)](#)
- [buildings \(by function\)](#)
- [buildings \(by height\)](#)
- [buildings \(by location\)](#)
- [buildings \(by material\)](#)

## Visual relationships

### Relation Browser

Region	Topic	Genre	Format
1021 State	3968 Inflation	2688 Index pages	429 HTML
655 National	5178 Wages	3335 News releases	131 PDF
66 International	386 Productivity	423 Occ Handbook	9808 TEXT
60 New England	4281 Safety/Health	235 Static tables	
58 NYNJ	265 Occupations	134 Dynamic Tables	
439 Mid-Atlantic	8721 Demographics	245 Unknown	
90 Southeast	227 Employment		
134 Midwest	138 Publications		
91 Southwest	5913 Industries		
95 Mountain-Plains	968 Bus. Costs		
265 Western			

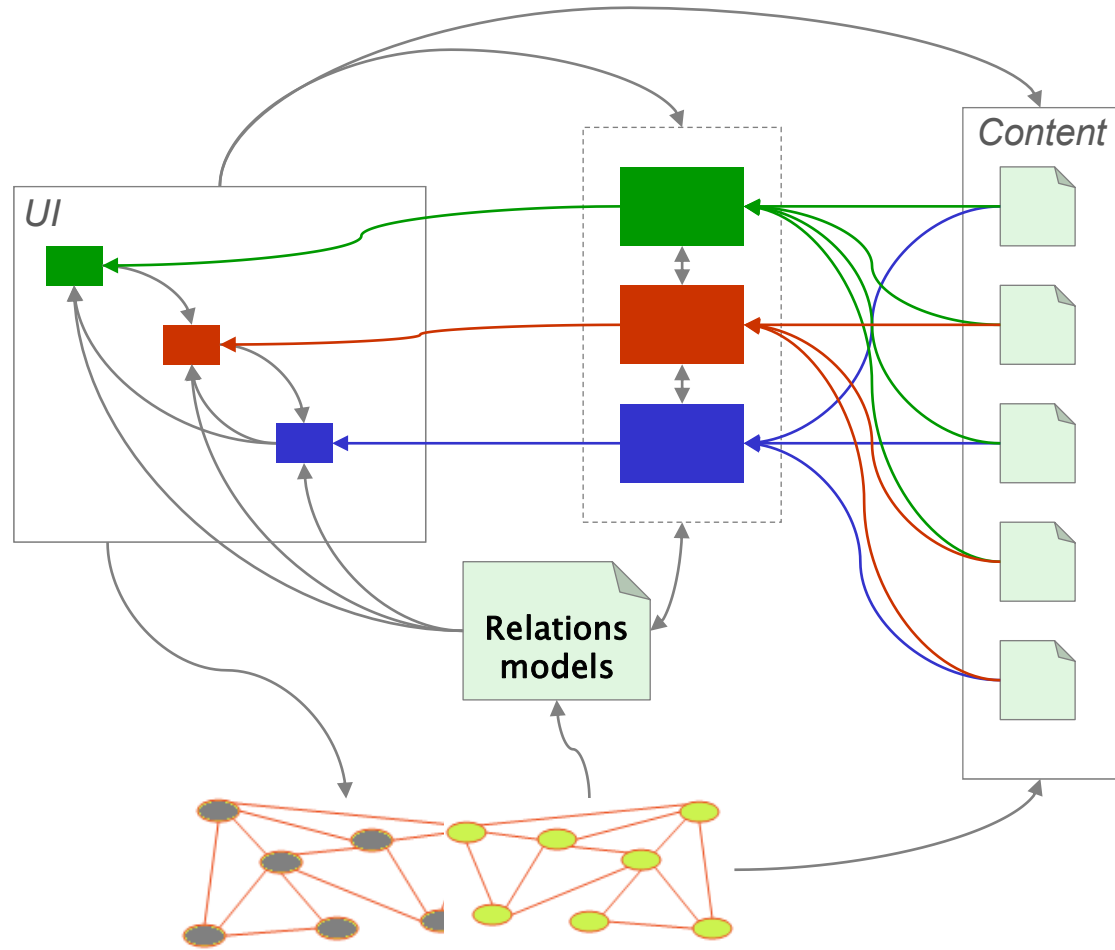
  

Region	Topic	Genre	Format
0 State	0 Inflation	0 Index pages	30 HTML
0 National	1 Wages	0 News releases	268 PDF
0 International	0 Productivity	0 Occ Handbook	0 TEXT
0 New England	0 Safety/Health	0 Static tables	0 ZIP
0 NYNJ	0 Occupations	0 Dynamic Tables	0 OTHER
298 Mid-Atlantic	0 Demographics	1 Employment	
0 Southeast	0 Publications	0 Industries	
0 Midwest	0 Bus. Costs		
0 Southwest			
0 Mountain-Plains			
0 Western			



# Semantic relationship browsing

- Flexible – add new data types and relationships any time
- Expose relationships for greater user control





1970s [1 more] / Economy, Business & Finance / (Subject) / (Location)

Decade	Theme	Subject	Location
1990s	Arts, Culture & Entertainment	Macro Economics	France/ Jaballyeh
1980s	Crime, Law & Justice	Manufacturing & Engineering	Larissa & Karditsa
1970s	Disaster & Accident	Marine Science	Moscow & Rostov-on-Don
1960s	<b>Economy, Business &amp; Finance</b>	Market & Exchange	Gaza/ Jericho
1950s	Education	Mass Media	Germany/Warsaw
1940s	Environmental Issue	Media	Trinidad & Tobago
1930s	Health	Medical Specialisation	Uthai Thani & Samut Prakan
1920s	Human Interest	Medical Staff	Ukraine/File
1910s	Labour	Medicine	Hong Kong/ Various Locations
1900s	Life/ Leisure	Metal & Mineral	Russia & Herzegovina



## Following relationships



freebase parallax

## Secondary relationships

Connections from the topics on this page:

- [Quotations](#) (698)
- [Things named after this](#) (102)
- [Subject](#) (14)
- [Officeholder](#) (145)
- [Inauguration](#) (20)

[more connections »](#)

AQUABROWSER®



# mSpace and the user's mental model



*"I'm interested in a particular Bach concerto. What album can I get to hear it?"*



*"I'm looking for a gift for someone who loves Bach. What has rare compositions?"*



*"I love the harpsichord. What modern music still uses that instrument?"*



Q		
1 Thai & Vietnamese (206)634-3526		
1000 Friends Of Was (206)343-3074		
101 Auto Sales (206)760-5800		
101 Deli & Grocery M (425)271-4968		
1031 Advantage (206)533-9640		
Category (38772)	Distance (38772)	Location (34806)
Favorites (0)		Shortcuts (0)
Hours (38772)	Price (5182)	Rating (5182)

Q	
1 Thai & Vietnamese (206)634-3526	
1000 Friends Of Was (206)343-3074	
101 Auto Sales (206)760-5800	
101 Deli & Grocery M (425)271-4968	
1031 Exchange Coord (425)883-6460	
Seattle (20354)	East Side (14412)
Location	Return to Top

1	2	3
4	5	6
7	8	9

1	2	3
4	5	6
7	8	9



EXPERT KNOWLEDGE GRID

results - I am NEUTRAL

Knowledge Grid Web Wiki

WHAT KIND OF WHISKY

- Jack Daniel's** Jack Daniel's, The famous rock n roll whisky is a brand of Tennessee... - [FOCUS](#)
- Ardbeg 10 years** Ardbeg, Ardbeg made in Scotch whisky distillery on the south... - [FOCUS](#)
- Glenfiddich 12 Years** Glenfiddich 12 Years, Glenfiddich is the biggest selling malt... - [FOCUS](#)
- Highland Park 12 Year** Highland Park 12 Year, Who doesn't like Highland Park? Dating... - [FOCUS](#)

Find your favourite Whisky ▶

EXPLORE FOOD & DRINK

- What kind of whisky** Find your favourite Whisky - [FOCUS](#)

Explore food and drink ▶

DRINK

- What kind of Whisky** Find your favourite Whisky - [FOCUS](#)

- Mix drinks** Search Drinkrecipe - [FOCUS](#)

Get help finding mobile drink sites ▶

DRYCK

- What kind of whisky** Find your favourite Whisky - [FOCUS](#)
- Cocktailguiden** På Cocktailguiden.com hittar du recept på många goda drinkar... - [FOCUS](#)
- Mix drinks** Search Drinkrecipe - [FOCUS](#)
- Systembolaget** Systembolagets mobiltjänst ger dig direkt information om sortiment... - [FOCUS](#)

Upptäck mobila sidor om dryck ▶

whisky

I am

Neutral  At work

Free  In motion

**boomstep precision results**

**WHAT KIND OF WHISKY** by Johan W  
Get help finding a whisky that suit your personal taste. Press Focus to find similar products.

**100% Ardbeg 10 years**  
Ardbeg, Ardbeg made in a Scotch whisky distillery on the south...

**99% Caol Ila** - [FOCUS](#)  
Caol Ila, The Caol Ila Distillery is hidden in a quiet cove near...

**98% Cragganmore 12 year** - [FOCUS](#)  
Cragganmore 12 year, Cragganmore, less widely known than the...

**98% Glengoyne 10 Year** - [FOCUS](#)  
Glengoyne 10 Year, Unlike most other single malts Glengoyne has...

**97% Clynelish 14 Years** - [FOCUS](#)  
Clynelish 14 Years, Single Highland Malt Scotch Whisky, One from...

[More ▶](#)

Choose at least two parameters to get personalized recommendations from the selection

Single Malt Scotch   
 10 - 12   
 Very   
 Moderate   
 Moderate

Malt  
 Cask  
 Peat  
 Nut  
 Sweet  
 Fruity





Design for **Context**

Making software applications and web sites easy to use

# User Interface Design Trends for Faceted Search

Duane Degler

Design for Context

[www.DesignForContext.com](http://www.DesignForContext.com)