

IA Summit, Austin, Texas

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http://user-experience.org/uefiles/facetedbrowse/

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- IBM > ibm.com > user experience > information architect
 - From vision to implementation: personalization, standards, taxonomies, content management, organizational change, ...
- Argus Associates
 - IA & Usability specialist
- “Information architecture old fart”
 - 6th IA-focused conference (5th ASIS&T Summit)
 - Retired from: Usable Web, CHI-WEB, SIGCHI, ...

- What is faceted browse?
 - Definitions so that we can communicate better
- How is it being implemented?
 - Examples, examples, examples
- What do we know (and not know)?
 - Short literature review, open research questions to help spur dialog
- “Fun”
 - Lots of screen shots

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

epicurious The World's Greatest Recipe Collection
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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 narrow the recipes by category.

MAIN INGREDIENT Beans, Beef, Bernese, 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	PREPARATION METHOD Advance, Bake, Broil, Fry, Grill, Marinate, Microwave, No Cook, Poach, Quick, Roast, Saute, Slow Cook, Steam, Stir Fry
CUISINE African, American, Asian, Caribbean, Eastern European, French, Greek, Indian, Italian, Jewish, Mediterranean, Mexican, Middle Eastern, Scandinavian, Spanish	SEASON/OCCASION Christmas, Easter, Fall, Fourth of July, Hanukkah, New Year's, Picnics, Spring, Summer, Superbowl, Thanksgiving, Valentine's Day, Winter
SPECIAL CONSIDERATIONS Kid-Friendly, Low Fat, Meatless	COURSE / DISH Appetizers, Bread, Breakfast, Brunch, Condiments, Cookies, Desserts, Hors d'Oeuvres, Main Dish, Salads, Sandwiches, Sauces, Side Dish, Snacks, Soup, Vegetables

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Browse > Microwave

Refine by: Main Ingredient | Course / Meal | Cuisine | Season / Occasion

Beans (1)	Dairy (9)	Grains (1)	Olives (1)	Poultry (2)
Beef (1)	Eggs (3)	Greens (1)	Onion (3)	Rice (2)
Berries (1)	Fish (2)	Herbs (9)	Peppers (6)	Shellfish (1)
Cheese (2)	Fruits (4)	Mushrooms (2)	Pork (2)	Tomatoes (6)
Chocolate (1)	Garlic (1)	Nuts (2)	Potatoes (9)	Vegetables (2)
Citrus (2)	Ginger (6)			

ARTICHOKE WITH GARLIC SAFFRON SAUCE
Gourmet April 1990

ARTICHOKE WITH SCALLION TOMATO VINAIGRETTE
Gourmet April 1992

BAKED APPLES WITH APRICOT AND WALNUT FILLING
Gourmet April 1990

Advanced Search
Find

Search These 34 Recipes
 Search All Recipes
Search Strategies

ADVERTISEMENT
Book: [Introduction to Usability](#)

Selecting a Course/meal is next

7



Course / meal = Main dish

8



Scanning the 12 items so far

9



Chicken main dishes you can prepare in the microwave

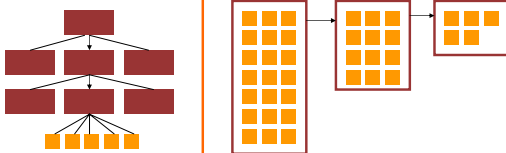
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Part of a trend: Filtering instead of Hierarchies

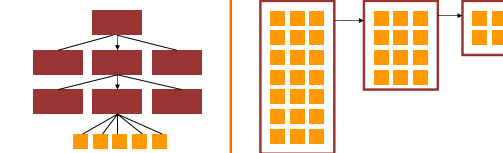
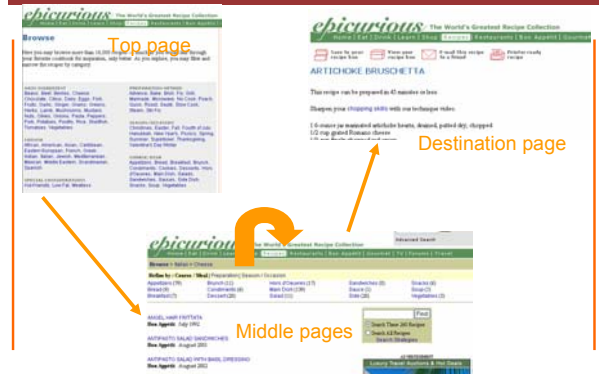
11

- Old days: Click-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



The pieces of the faceted browse flow

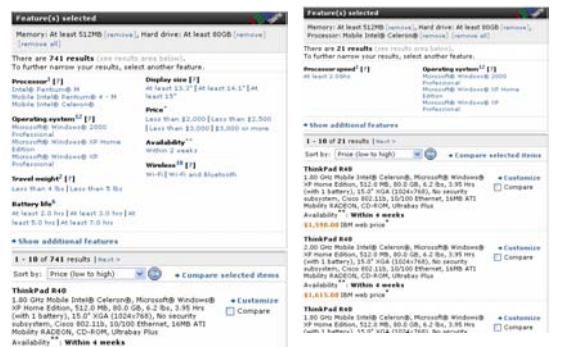
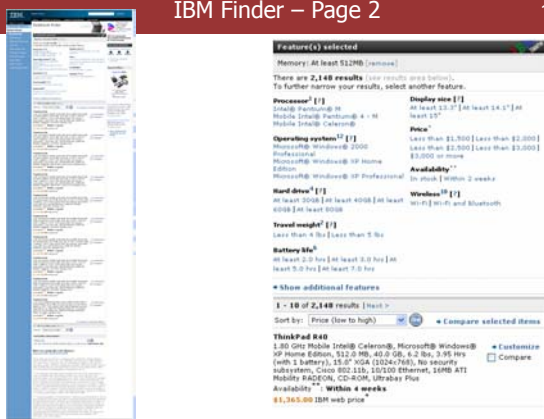
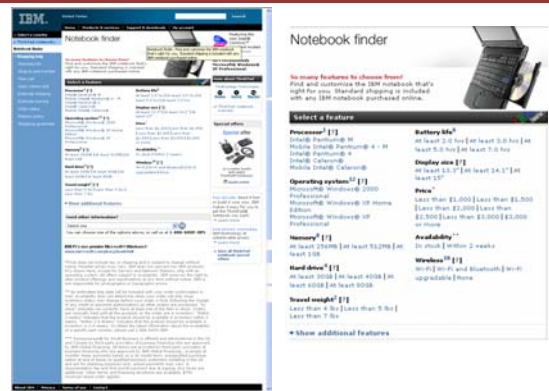
12



- Facet selection: How do you select a facet value?
- Facet history: How do you know what you have selected? How do you undo it?
- The results: How are results displayed? How are they laid out wrt the facet selection and history?
- Item: the basic unit of information, what you are looking for, what gets classified along different facets
- (The classification): behind the scenes but very, very important



- Faceted browsing (what caught on within IBM)
- Faceted metadata search & browse (searchtools.com, Flamenco)
- Guided navigation (Endeca)
- Facetmap (facetmap.com)
- Faceted classification: the back end stuff (vs. my user interface stuff here)
- Finding = Searching/box + Browsing/links + Querying/form



IBM finder – Some results lead to configurators 19

Let me build it
To build your own system choose the items you wish to include from the drop-down below and then click "View Configuration" button at the bottom of the page.

IBM recommends Microsoft® Windows® XP Professional

Special Offerings
Special Offerings: These offer items currently available with this system. For processors and offers included below. (Special Offerings) are included. These offers are available for a limited time only, may not be combined with other offers (Special Offerings), and are valid only in the US. If your shipping address is in Puerto Rico, items are not eligible for certain processors, including this one (IBM product). Contact 1.888.542.888 for details. (Click to take offer(s))

26015U4
Base price * \$1,500.00
Configured Price * \$1,500.00
Lease Price \$57.00
Per Month
[View a Lease for IBM Business™](#)

Let us build it
IBM ThinkPad® R Series 2601
Operating System Microsoft Windows XP Home Edition
Processor (3) Intel® Pentium® 4 Processor at 1.8GHz with 256KB L2 Cache
Display Type (2) 15.5" WXGA (1024x768) TFT Display

IBM finder – Facet history 20

Feature(s) selected
Processor: Intel® Pentium® 4 (Remove), Operating system: Microsoft Windows® XP Home Edition (Remove), Memory: At least 512MB (Remove), Hard drive: At least 80GB (Remove), Price: Less than \$1,500 (Remove), Processor speed: At least 2.0GHz (Remove), Form Factor: Tower (4x3) (Remove), Graphics memory: 128 MB (Remove), CD/DVD drive: DVD-ROM (Remove) (Remove all)

Desktop finder
Feature(s) selected
Processor: Intel® Pentium® 4 (Remove), Operating system: Microsoft Windows® XP Home Edition (Remove), Memory: At least 512MB (Remove), Hard drive: At least 80GB (Remove), Price: Less than \$1,500 (Remove), Processor speed: At least 2.0GHz (Remove), Form Factor: Tower (4x3) (Remove), Graphics memory: 128 MB (Remove) (Remove all)

Feature(s) selected
There are 13 results (See results page below). To further narrow your results, select another feature.

Feature(s) selected
There are 4 results (See results page below). To further narrow your results, select another feature.

Sort by: Price (low to high) • Compare selected items

ThinkCentre A32p
2.80 GHz Intel® Pentium® 4, Microsoft Windows® XP Home Edition, Tower (4x3), 512 MB, 80 GB, No security subsystem, Integrated Intel PRO/100 Ethernet, 128 MB ATI Radeon 9600 Pro TV-out DVD-R AOP 8x, DVD-ROM **
Availability: ** Within 4 weeks
\$1,329.00 IBM web price

ThinkCentre A32p
2.80 GHz Intel® Pentium® 4, Microsoft Windows® XP Home Edition, Tower (4x3), 512 MB, 80 GB, No security subsystem, Integrated Intel PRO/100 Ethernet, 128 MB ATI Radeon 9600 Pro TV-out DVD-R AOP 8x, CD-ROM
Availability: ** Within 4 weeks

IBM finder – Additional facets 21

Desktop finder
No many features to choose from? Find and customize the system that's right for you. Standard shipping is included with any IBM desktop purchased online.

Select a feature
Processor (1) Intel® Pentium® 4 with HT Technology Brand (Remove) Intel® Pentium® 4 (Remove) Intel® Celeron® (Remove)

Hard drive (1)
At least 80GB (At least 80GB (At least 20GB (Remove)

Operating system (1)
Microsoft Windows® 2000 Professional (Remove) Microsoft Windows® XP Home Edition (Remove) Microsoft Windows® XP Professional (Remove)

Form factor (1)
Desktop (1x1) Desktop (4x4) Small Desktop (4x3) Small Form Factor (2x3) Tower (3x3) Tower (4x3) (Remove)

Memory (1)
At least 256MB (At least 512MB (At least 1GB (Remove)

Security subsystem (1)
IBM Encrypted Security Subsystem 2.0 (None (Remove)

Ethernet (1)
Gigabit Ethernet (Remove) Integrated Intel PRO/100 Ethernet (Remove)

Example 2 – Flamenco (fine arts) 22

Flamenco Fine Arts Search
1530 items (grouped by name)

Media (1)
Audio (1) Video (1) Image (1) Text (1) Other (1) (Remove)

Location (1)
North America (1) South America (1) Europe (1) Africa (1) Asia (1) Oceania (1) (Remove)

Date (1)
1900-1949 (1) 1950-1999 (1) 2000-2009 (1) 2010-2019 (1) 2020-2029 (1) (Remove)

Themes (1)
Cultural (1) Historical (1) Musical (1) Religious (1) Scientific (1) (Remove)

Flamenco – Middle pages - Mammals 23

Flamenco Fine Arts Search
1530 items (grouped by name)

Mammals (1)
Elephant (1) Tiger (1) Lion (1) Bear (1) Wolf (1) (Remove)

Location (1)
Africa (1) Asia (1) Europe (1) North America (1) South America (1) Oceania (1) (Remove)

Date (1)
1900-1949 (1) 1950-1999 (1) 2000-2009 (1) 2010-2019 (1) 2020-2029 (1) (Remove)

Themes (1)
Cultural (1) Historical (1) Musical (1) Religious (1) Scientific (1) (Remove)

Flamenco - Elephants 24

Flamenco Fine Arts Search
1530 items (grouped by name)

Mammals (1)
Elephant (1) Tiger (1) Lion (1) Bear (1) Wolf (1) (Remove)

Location (1)
Africa (1) Asia (1) Europe (1) North America (1) South America (1) Oceania (1) (Remove)

Date (1)
1900-1949 (1) 1950-1999 (1) 2000-2009 (1) 2010-2019 (1) 2020-2029 (1) (Remove)

Themes (1)
Cultural (1) Historical (1) Musical (1) Religious (1) Scientific (1) (Remove)

Object (1)
Painting (1) Sculpture (1) Photograph (1) Book (1) Manuscript (1) (Remove)

Refine your search further within these categories. These terms define your current search. Click the X to remove a term.

Media (4) **Paintings (3)** **Books (2)** **Music (2)** **Photographs (2)** **Video (2)** **Webcasts (2)** **Other (2)**

Location (4) **Spain (3)** **France (1)**

Date (4) **17th - 18th century (3)** **Late 18th century (1)**

Themes (4) **Religion (3)** **Music, writing, and song (1)**

Objects (4) **Objects (3)** **Libraries (1)**

Refers to (4) **Spain (3)** **France (1)**

Places and Spaces (4) **Buildings (3)** **Churches (1)**

People (4) **Children (3)** **Occupations (1)** **Men (1)**

Shapes, Colors, and Materials (4) **Blue (3)** **Gold (1)** **White (1)** **Other (1)**

Artists (4) **Anonymous (3)** **Chand, mihir, active 19th - 19th century (1)**

3 results (unpaginated, sorted by Object Title) **set by** **date** **alpha**

1. **Ornament with an Ant...** by Anonymous, circa 1750

2. **Portrait of Fern...** by Miki Chaud, circa 1750

3. **The Holy Family** by Anonymous, circa 1775-1800

Select any link to see items in a related category.

Media (4) **Paintings (3)** **Books (2)** **Music (2)** **Photographs (2)** **Video (2)** **Webcasts (2)** **Other (2)**

Location (4) **Spain (3)** **France (1)**

Date (4) **17th - 18th century (3)** **Late 18th century (1)**

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Places and Spaces (4) **Buildings (3)** **Churches (1)**

People (4) **Children (3)** **Occupations (1)** **Men (1)**

Shapes, Colors, and Materials (4) **Blue (3)** **Gold (1)** **White (1)** **Other (1)**

Artists (4) **Anonymous (3)** **Chand, mihir, active 19th - 19th century (1)**

MSN Home | My MSN | Internet | Shopping | Money | People & Chat

Home | Apparel | Bargains | Books | Computing | Electronics | Flowers | Gifts | Home Decor | Jewelry | Kidz | Music | Sports | Toys | More...

Happy Valentine's Day: Cupid's Favorite Last-Minute Gifts

Search Shopping

Televisions

Narrow your search

By Price Range

- \$100.00 - \$129.99 (27)
- \$130.00 - \$149.99 (26)
- \$150.00 - \$169.99 (24)
- \$170.00 - \$189.99 (24)
- \$190.00 - \$1,399.99 (24)
- \$1,400.00 - \$12,999.99 (24)

By Brand

- FRIGIDAIRE (27)
- SHARP (26)
- SAMSUNG (24)
- SANYO (24)
- Sony (24)
- SHARP (24)
- SCHNEIDER (24)
- 25 (17)

141 results found

Sort by relevance

1. **TELEVISION** by Samsung, \$199.99

2. **LENOVO_TV_CRT_32"** by Lenovo, \$249.99

3. **42 Inch UltraLight Plasma Display** by Gateway, \$2,899.99

Search Shopping

Televisions

\$250.00 - \$899.99 - Sony

Narrow your search

By Price Range

- \$250.00 - \$299.99 (6)
- \$300.00 - \$499.99 (3)
- \$500.00 - \$699.99 (3)
- \$700.00 - \$799.99 (3)

By Brand

- Sony (15)

15 results found

Sort by relevance

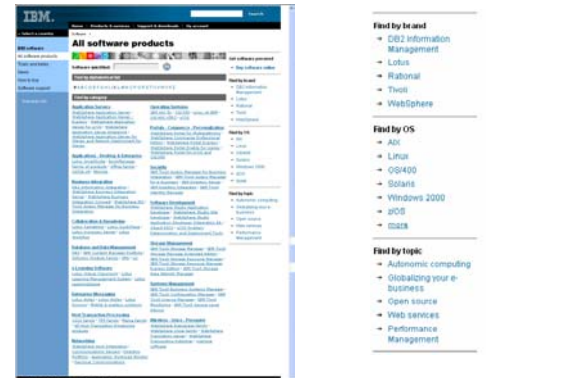
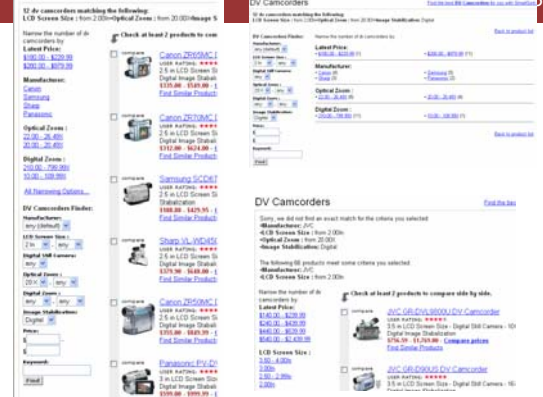
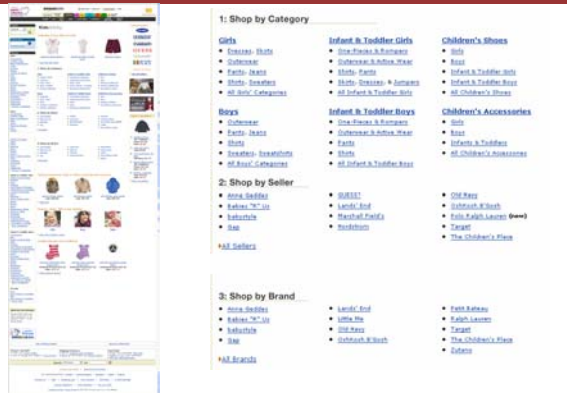
1. **KV-27FS210** by Sony, \$494.99

2. **KV-32FV310** by Sony, \$899.00

3. **KV-27FV310_TV_CRT_27"** by Sony, \$594.99

	Epicurious	IBM	Flamenco	MSN
Top page (no results)	Yes	Yes	Yes	No
Facet selection	1 facet at a time	More facets	Left	Left
Facet history	Breadcrumb	Commas [remove]	Blocks [x]	Dead breadcrumb
Results		Sort Compare	Grouping	Sort Compare
Destination pages	Islands	Islands	Exposed values	Islands

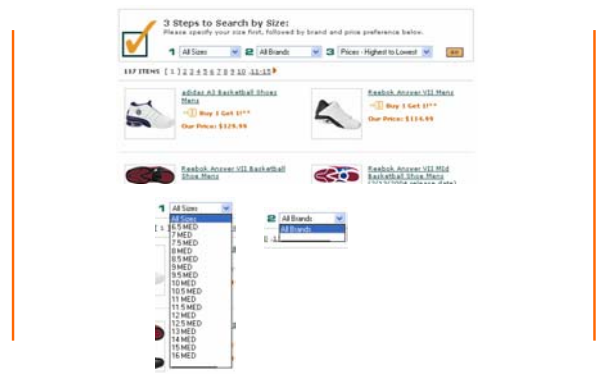
- Amazon.com Shop-by browsing
 - Shop by brand: not FB
- Yahoo! Electronics Finder
 - “Faceted querying”
- IBM software Find-by
 - Just a gateway to sub-sites
- Dick’s Sporting Goods Shoes
 - 3 steps: Brand is contextual to size
- CNET Shopper Filter-by
 - Filter values are generic



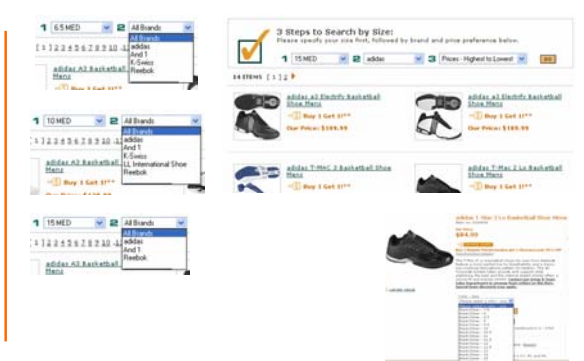
IBM Software Find-by: Just a gateway 37



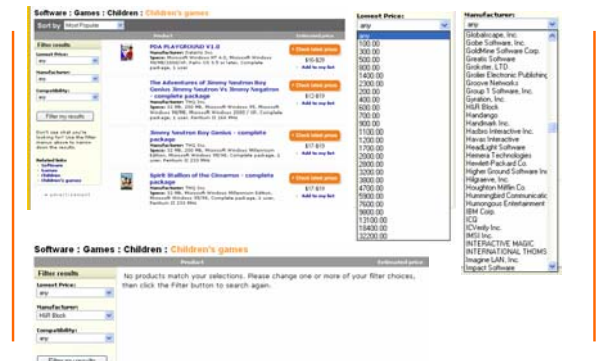
Dick's Sporting Goods: Shoes by Size & brand 38



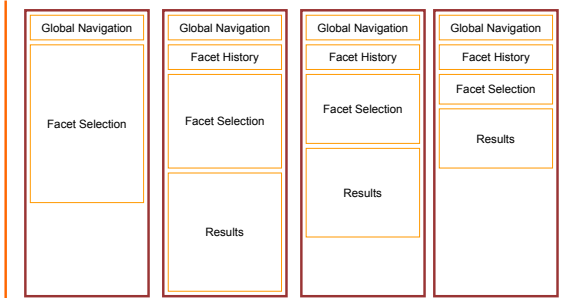
Dick's Sporting Goods: Shoes by Size & brand 39



CNET Shopper: Filter results (by all software facet values) 40



The model – "natural" selection? 41



High level questions re: Faceted browse 42

- What is the best flow?
 - Top page: good or bad?
 - How integrated should the destination pages be?
- How should the elements be arranged on the page?
 - Facet selection on top vs. left, for example
- How easy is this to learn?
 - Special words or phrases to clue users in?
- What contexts does this work well in?
 - "Finders" vs. "Configurators"
 - Shopping by (physical) attributes
 - More abstract/diverse objects: how homogeneous?

- What if you have too many facets?
 - Show / hide or eliminate?
 - How many is too many?
- What if you have too many facet values?
 - Selected set and “show all”?
- Do you show the hits on the links?
- What if users need to select more than 1 value for a given facet?
- Can we think of keyword search as just another type of facet selection?

- Are breadcrumbs a good user interface for this?
 - vs. “undo” metaphor
- Do users understand what they are doing when they undo?
- How useful is the “remember what you chose” aspect?
- Should history be integrated with selection?

- Which is better: menus or lists of links?
 - Menus: less real estate
 - Many choices at once: that is better, no?
- How does FB fit into the top-down IA of a site?
 - Just an overlay on items vs. integrated items

- How does the faceted classification & user interface work go hand-in-hand?
 - Classification first and then UI?
- Determining facets
 - Hierarchical facets, # of facets, usefulness of each facet
- Facet values
 - Labels, thus, user interface
- “Spectrum” (numerical facets)
 - Range-making at the UI layer

- Learn more at this summit
 - Stream 1, esp. facet analysis NEXT
- If you are a student/professor who wants to do *research* in FB, contact me
- IAslash.org – blog FB there
 - <http://iaslash.org/taxonomy/page/or/166>
- <http://user-experience.org/uefiles/facetedbrowse/>

- Thanks!

