

Faceted search...current trends and usability

Sarah Brearley and Rosalind Mann, User Experience Consultants – The Web Usability Partnership

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The faceted search is becoming ever more popular as e-commerce sites aim to showcase their multitude of products. The faceted search enables users to customise the way in which they search for a particular item, whether it is an item of clothing or a laptop. Upon selecting a number of criteria (facets) e.g. brand, colour, the search results alter dynamically displaying the relevant items. Users are then able to select/deselect facets with the results altering visually in front of them.

Chosen Options:

Cardigans remove
 Jumpers remove
 Women remove

View New Arrivals (1)

Select Colour:

Black (42)	Cream (12)
Grey (36)	Pink (12)
Blue (24)	Red (12)
Natural (20)	White (10)
Green (14)	Tan (9)
more [+]	

Select Fit:

- Regular (72)
- Long Line (42)
- Cropped (30)
- Slim Fit (20)
- Other (18)
- Oversize (9)
- Baggy (5)

Select Length:

- Long (75)
- Other (39)
- Short (3)

Figure 1: Example of a faceted search used by Next, the clothes retailer

An alternative to the faceted search is the filtered search, although this is somewhat less sophisticated. Users are able to select from a series of filters in order to drill down to the desired product. A common approach to this is the use of drop down lists, radio buttons and checkboxes and can be found across many travel websites.

Why use a faceted search?

The faceted search enables users to take control of the way in which they search for items and allows for dynamic refinement. It allows the user to

determine quickly which product meets their needs. It is particularly beneficial for sites that have a large and/or complex product range e.g. computers, where users have a vast number of criteria to contend with.

"The power of faceted search lies in the ability of users to create their own custom navigation by combining various perspectives rather than forcing them through a specific path" (Lemieux 2009)

Pitfalls

Depending on the number of facets, a faceted search can take up a considerable amount of real estate, leaving users to scroll. From a usability perspective, users only *"allocate 20% of their attention below the fold"* (Nielsen 2010) and are, therefore, not likely to see the facets presented to them below the fold. Issues may also arise when facets are correlated, as opposed to being independent of each other, causing difficulty during implementation, for example *"...an article of clothing ...comes in both red and blue, and in both large and small sizes – however the smaller instance comes only in red whereas the large instance comes in both colours"* (Ben-Yitzhak, Neumann et al. 2008).

Current trends

We undertook an audit of 100 top e-commerce sites to understand the faceted search conventions that were currently being used (sites can be found in the appendix). 34 % of the sites had a faceted search, whilst 52 % of sites used a filtered search. The remaining sites used a traditional information architecture and search functionality.

Faceted search across different sectors

60% of retail clothing sites used a faceted search, as opposed to a filter. Facets varied between sites; however, commonly used facets were size, colour, price, brand and occasion. As for retail electronics sites, 44% used a filter and 33% used a faceted search, the remainder had a traditional information architecture. Both the facets and filters used were very specific to the product type e.g. for printers this included colour, printer type and print speed, whereas for laptops this included processor speed, ram, graphics processor and screen size. As for entertainment sites, 75% of these used a filter. This was popular for cinema sites such as the

Odeon or Vue, where users were able to select the date, time and film from a series of drop down lists. As for mixed category retail sites, e.g. department stores such as Debenhams, John Lewis and Marks & Spencer, 73% of those sites used a faceted search. This was particularly useful when selecting from a complex product range. All travel sites audited used a filtered search, where users could select typical fields such as destination, departs from, departure dates and number of nights.

The screenshot shows the 'Flights' tab of the easyJet website. The form is titled 'Book a cheap flight' and includes the following fields:

- 'From ->' and '-> To' dropdown menus.
- 'Flying out on' and 'Returning on' date pickers, with the current selection being '22 December 2011'.
- 'no.' and 'just one way' dropdown menus.
- A checkbox for 'Flexible on dates?'.
- 'Passengers' section with dropdowns for '1 adults', '0 children (under 16 years)', and '0 infants (under 2 years)'.
- A 'Show flights!' button at the bottom.

Figure 2: All the travel sites audited used a filtered search, as shown on the easyJet site

Position of faceted search

82 % of sites that contained a faceted search positioned it in the top left of the screen. However, the faceted search tended not to be presented on the homepage, but often 2/3 levels down within the information architecture when selecting a particular product e.g. dress or top. Whereas sites that used a filtered search positioned this up front on the homepage e.g. Thomson flights and Monarch airlines.

Number of facets

The number of facets varied according to how complex the product type was. For example items such as laptops tended to have a huge number of facets (up to 18 facets on the Comet site), whereas products such as bed linen have only a few facets such as colour, price and brand.

Type of facets

Facets tended to be rational, as opposed to emotional. Common facets included price, colours, brand and size, but facets varied between product types. For example, with the Wilkinson retail site, when searching for stationery, the user is presented with the facets price, type and colour; however, when searching for rabbit hutches, the facets were price, type and brand. Similarly on sites such as House of Fraser, due to their diverse range of products, facets varied from brand, colour, price and size within women's clothing to brand, price and style within home furnishings. Whilst some facets can be used across entire

product ranges e.g. price, others vary enormously, for example laptops with screen size (17", 14"), or fragrance with gender (male/female/unisex).

Facet selection method

68 % of faceted searches used hyperlinks as a single method of selection whilst 15% used checkboxes as a single method of selection. Sites that used a filtered search tended to use a combination of drop down lists, check boxes and radio buttons. It appears that where there are a limited number of attributes, for example when booking a holiday e.g. departure/return dates, departure airport/arrival airport and the number of passengers, a filtered search is commonly used.

Displaying results

65% of faceted searches stated the number of results in each category. This was often presented in brackets next to the facet. Not all of the sites that we audited made it clear to users which facets were currently applied and how to remove those.

Breadcrumbs

64 % of all the sites reviewed used breadcrumbs, for example Mothercare, Maplin, Dorothy Perkins and Wickes. The use of breadcrumbs is highly recommended by Nielsen (2007) for a number of reasons:

- Breadcrumbs show people their current location
- Breadcrumbs afford one-click access to higher site levels
- Breadcrumbs never cause problems in user testing
- Breadcrumbs take up very little space on the page

Variations

Some sites are using facets that are more complex and subjective. An interesting variation on the faceted search has been demonstrated with the clothing brand Boden, which incorporates customer feedback (customer reviews and ratings) with the ability to search - users are able to search for and buy products based on customer ratings. Boden is also considering using 'body type' as a facet e.g. apple and pear shaped.

The gift site Iwantoneofthose.com (although not within our audit) uses personality type as a facet when searching by gift recipient. For example, it is possible to select between adventurous, geek, party animal, lady who lunches etc.



Figure 3: Personality type facets used by *Iwantoneofthose.com*

Another interesting design is the faceted search on the River Island clothes site. This makes use of a fun colour chart and icons to be able to select the occasion the item of clothing is suitable for. However, the icons could be clearer: it is not until the user selects the icon that they are presented with the label. This could be improved by clearly stating what the icon represents upfront.



Figure 4: River Island faceted search

Faceted search and usability

In order to develop a useful and meaningful faceted search, firstly it is important to understand the users' 'mental model' - how they go about searching for information. It is necessary to keep refining the criteria until they represent users with a broad range of goals. It is vital that the facets used are the 'right' type for the product. For example, when searching for a dress the user may search by colour, brand and size, whereas when searching for a camera, the user may search by

brand, zoom and price. If the organisation has a large complex product range, the same facets cannot be applied throughout the site; it may be that common facets such as price and colour can be used across the site, whilst those facets specific to a product will have to be adapted. Also user behaviour can differ depending on the particular product they are searching for.

It is important not to overwhelm users with too many options. Depending on the product range, 4 facets tend to be enough to narrow down the search – price, colour, size and brand. If too many facets are presented, this will not only take up space on the page but may also result in returning zero results if too many facets are applied.

In addition, it is important to consider the ordering of the facets and position those that are most popular higher up the list. For each facet, users also need to know how many results will be returned.

As for the breadth and depth of the faceted search, according to Lemieux (2009) *"Faceted search works better with a broader taxonomy that is relatively shallow because that lets users combine more perspectives"*.

Allow users to be flexible and provide the ability to alter the selected facets at any stage. It is important to allow users to be able to remove selected facets as easily as they can add them.

By using breadcrumbs alongside the facets, this will not only show where the user is currently, but will also allow them to click to previous levels of the site, making them feel in control.

For users to really benefit from the dynamic nature of the faceted search, it is imperative that the search results page refreshes quickly after each refinement. Failure to do so will leave users frustrated.

As we move into an ever increasingly mobile world, it will be interesting how the faceted search will adapt to work on mobile devices, or if there will be a replacement methodology. According to e-consultancy (2010) mobile internet usage will overtake PC usage by 2013. Whilst a faceted search may work well on a larger tablet or iPad, it is questionable whether this approach will work well on a smart phone due to the small screen size. Conversely, some form of filter/faceted search will be required to reduce the number of search results a user has to view on a small screen.

Conclusion

Faceted search tools have become mainstream and more sophisticated. Some retailers are pushing boundaries to try and integrate more engaging and subjective facets in their search tools. Retailers' attempts to include customer reviews and recommendations as a component of

their search tools are indicative of their drive to link social networking to retail sales. More subjective search facets may require more of a mental leap for users and a more labour intensive meta-tagging process for the retailer. It remains to be seen how successful they will be.

© Web Usability Partnership Ltd
Unit 15, Lansdowne Court, Bumpers Farm,
Chippenham, Wilts SN14 6RZ
Tel: 01249 444 757
Email: info@wupltd.co.uk
Web: www.wupltd.co.uk

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Appendix

List of top 100 e-commerce sites used for the audit

1. Amazon uk
2. Argos
3. Play.com
4. Amazon.com
5. Tesco.com
6. Marks and Spencer
7. Epsom uk
8. Expedia.co.uk
9. Next
10. Asos
11. easyJet
12. RyanAir
13. Thomson Holidays
14. Dell EMEA
15. Tesco Direct
16. B&Q
17. Apple computer
18. HMV.com
19. Littlewoods
20. Sainsburys
21. Topshop
22. lastminute.com
23. Asda
24. River Island
25. Ebuyer
26. Debenhams
27. Ticketmaster UK
28. John Lewis
29. Currys
30. Thomas Cook
31. O2 shop
32. LoveFilm
33. Comet UK
34. Screwfix Direct
35. Travelodge UK
36. Game
37. Homebase
38. PC World
39. Odeon cinemas
40. New Look
41. The TrainLine
42. Cineworld cinemas
43. British Airways
44. Vue Entertainment
45. QVC UK.com
46. Ikea
47. HP
48. Boots
49. Halfords
50. First Choice
51. The Orange Shop
52. TravelRepublic.co.uk
53. Asda Direct
54. Maplin Electronics
55. Flybe.com
56. T-mobile Shop
57. Dorothy Perkins
58. Wickes
59. Carphone Warehouse
60. Vodafone shop
61. See Tickets
62. Jet2
63. M and M Direct
64. National Express
65. InterContinental Hotels Group
66. Apple iPod and iTunes
67. Aldi UK
68. bmibaby
69. Toys R Us UK
70. Mothercare
71. Monsoon
72. Holiday Extras
73. Optical Express
74. On The Beach
75. Teletext Holidays
76. Laura Ashley
77. Dixons Online
78. House of Fraser
79. Miss Selfridge
80. Additions Direct
81. Topman
82. Thomson Airways
83. Opodo UK
84. Focus DIY
85. LEGO Worlds
86. JD Sports
87. Wilkinson Plus
88. Monarch Airlines
89. Premier Inn
90. Sportsdirect.com
91. Boden
92. HolidayLettings.co.uk
93. Virgin Trains
94. Republic
95. Pixmania UK
96. Chain reaction cycles
97. Wiggle
98. Hoseasons Holidays
99. Freemans of London
100. Haven Holidays