Create an optimal search experience

INTRO TO SEARCH IN DRUPAL 7

Acquia™

Welcome!

Introduction

SECTION 1: WHAT ARE WE SEARCHING FOR?

The problem

We need search!

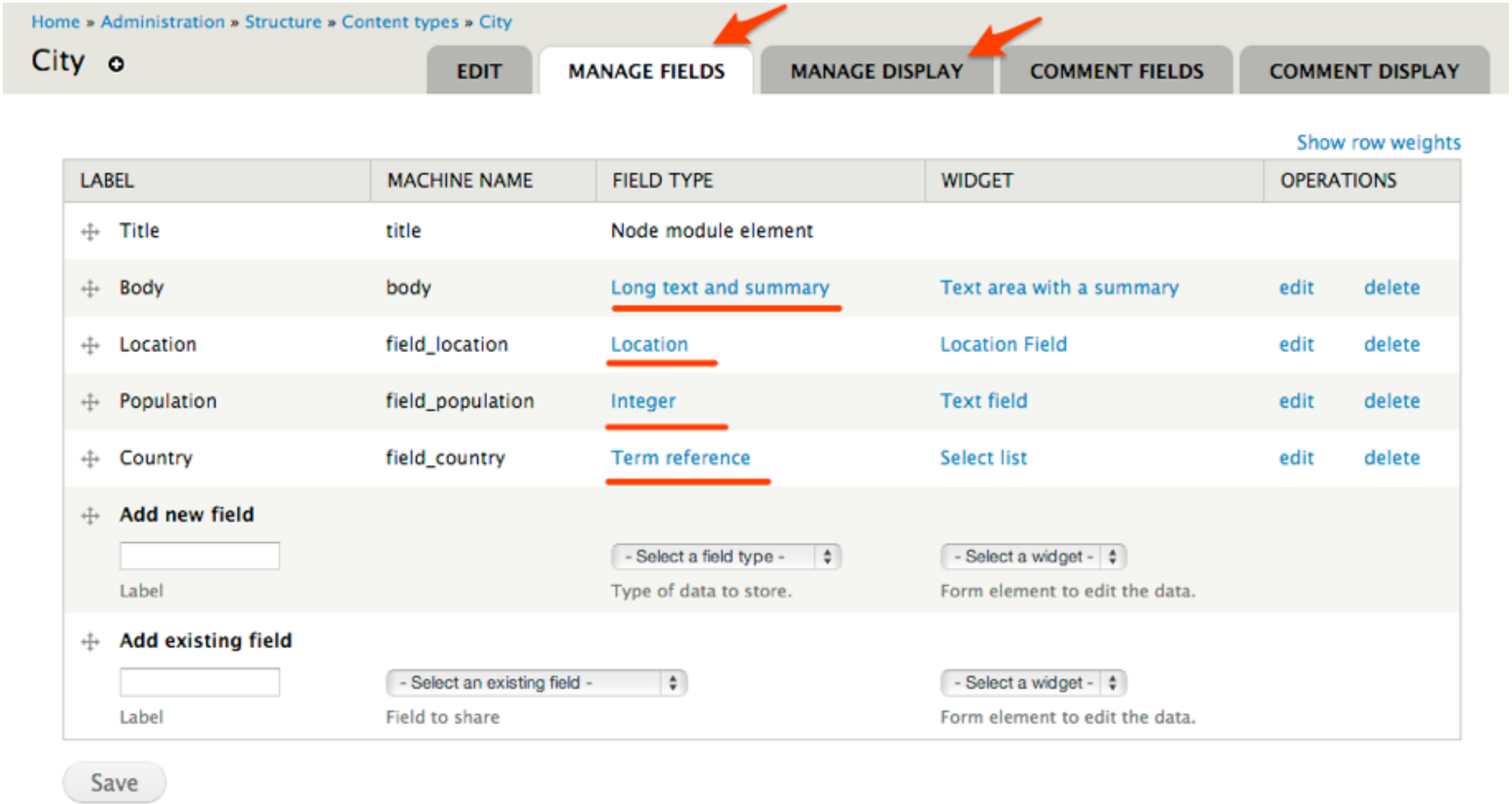
Why do you need search?

- Commerce - increase sales?
- Large amounts of data?
- Connecting people to information?

- Share some examples!

Our sample travel site

- Administration > Structure > Content types
- Administration > Reports > Field list

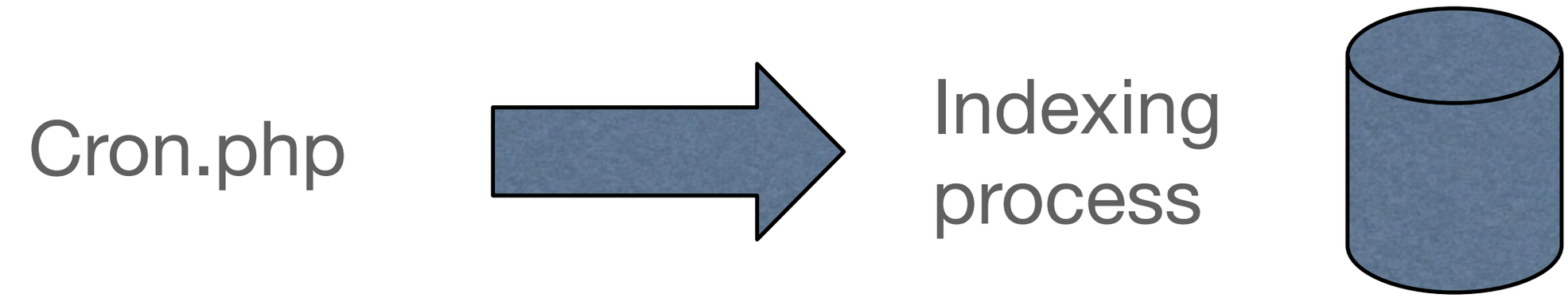


We need a search page!

Core search - what's in the box?

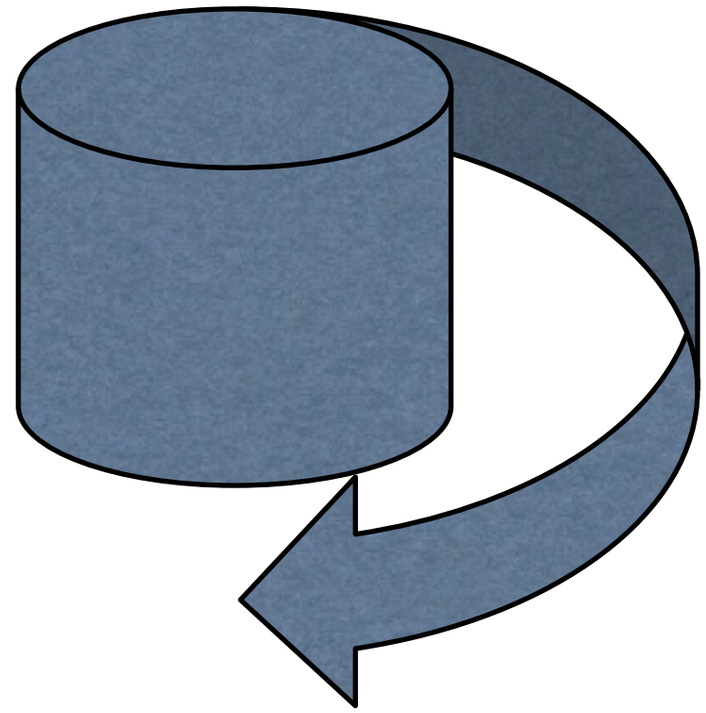
Drupal 7 core search

- Interval defines how often updated content is being processed and sent to the index.



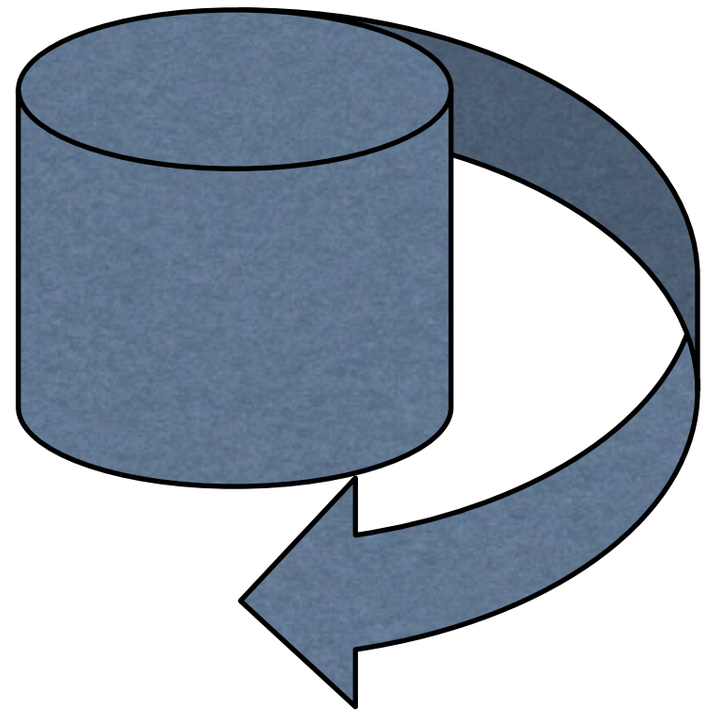
Core search indexing

- HTML Tag Scores
  - <H1> scored at 25
  - <H2> scored at 18
  - Headings have higher scores than content.
- Accent Removal
  - Montréal => Montreal
- Stemming
  - skips, skipping also means “skip”



Core search limitations

- SQL Not optimized for full text search
- Limited Operators
- Slow/not scalable
- Stemming happens on PHP side, not optimized
- Dead ends



Demo: Core search

- Load up Drupal core search
- Confusing UI
  - Advanced search? Users don’t use it.
  - Confusing UI of Search page
  - Can’t customize options
- Index?
  - Limitations for fine-tuning

Exercise 1: Core search configuration

- Load up Drupal core search
- Confusing UI
  - Advanced search? Users don’t use it.
  - Confusing UI of Search page
  - Can’t customize options
- Index?
  - Limitations for fine-tuning

Dead ends….

- A bad landing page, with no suggestions.
- “Don’t make me think”.

Congratulations!

You have finally reached the end of the internet!
There's nothing more to see, no more links to visit.
You've done it all.
This is the very last page on the very last server at the very far end of the internet.

You should now turn off your computer and go do something useful with the rest of your life. *

Suggestions:

- Read a book
- Do some public service
- Personally interact with your neighbors that you've probably only met online
- Plant a tree
- Introduce yourself to those other people who live at your house (your family).

** Please don't forget to turn off the lights on your way out.*

What are alternatives?

Alternatives to core search

- Full services:
  - Google's Custom Search
  - Google Search Appliance

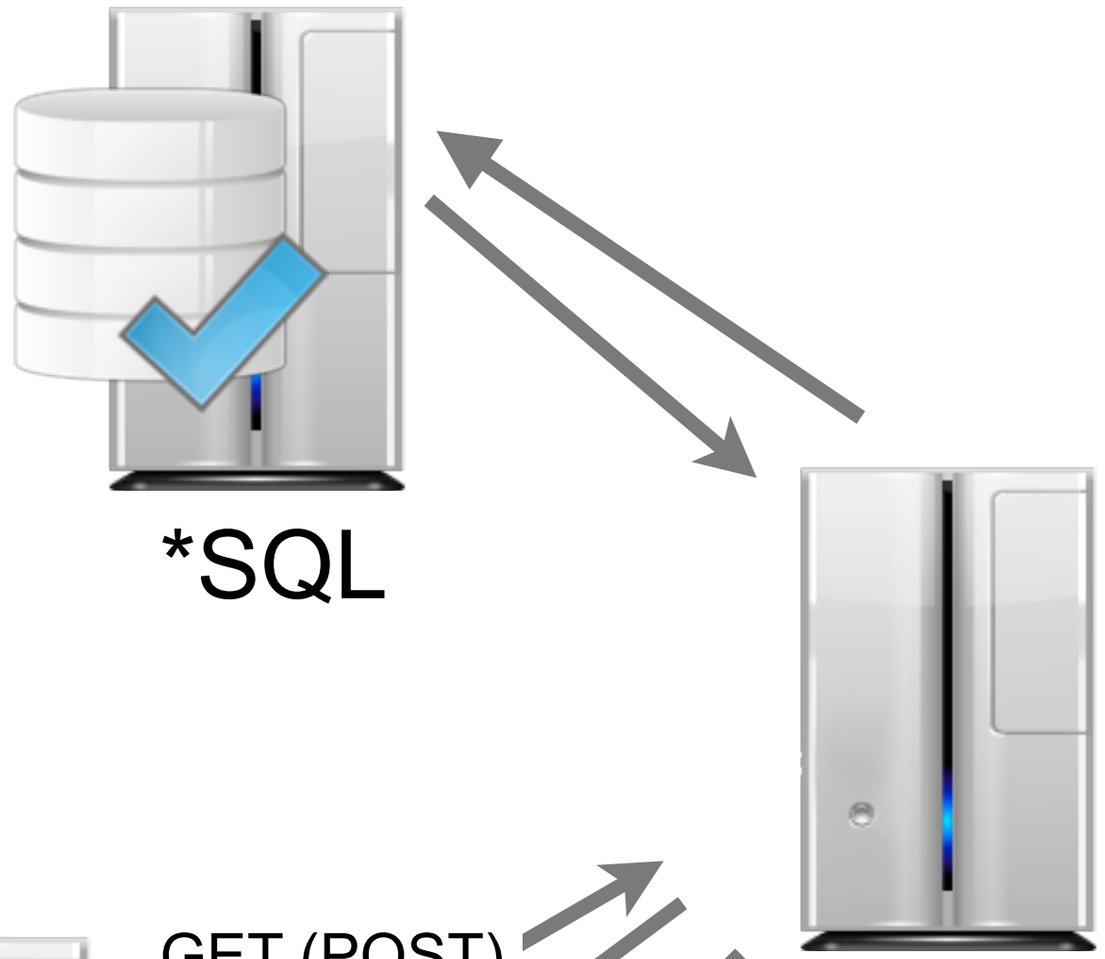
- Indexing software:
  - Fuzzy Search
  - Elasticsearch
  - **Apache Solr**

Apache Solr

- Based on Lucene
- Written in Java; uses container such as Tomcat or Jetty
- Mathematical Indexing
- Replication / Solr Cloud
- Multiple indexes (Multicore)

Apache Solr

- Separate Server
- Indexes your site
- Widely used and tested



Apache Solr

Solr

Integrating Apache Solr and Drupal

Integrate Solr w/ Drupal

- Search API
- **Apache Solr Search Integration**

Customizing Solr

- Improve the **Index**
  - What Solr is storing
  - How Solr indexes information
- Improve the **Query**
  - What is being requested from Solr
- Improve the **Results**
  - What is displayed to the user, and how they navigate the search experience

http://2012.pnwdrupalsummit.org/sessions/customizing-apache-solr-search-experience

Getting set up

SECTION 2: CONFIGURE SOLR SEARCH IN DRUPAL

What comes with Solr?

Comparisons

Core index config

Home » Administration » Configuration » Search and metadata

Search settings

The search engine maintains an index of words found in your site's content
maintenance task is required. Indexing behavior can be adjusted using the

INDEXING STATUS

***100%* of the site has been indexed. There are 0 items left to inc**

Re-index site

INDEXING THROTTLE

Number of items to index per cron run

100

The maximum number of items indexed in each pass of a cron maintena
timeouts and memory errors while indexing.

INDEXING SETTINGS

*Changing the settings below will cause the site index to be rebuilt.
to reflect the new settings. Searching will continue to work but new
been re-indexed.*

The default settings should be appropriate for the majority of sites

Minimum word length to index

3

The number of characters a word has to be to be indexed. A lower settin
Each search query must contain at least one keyword that is this size (or

Solr index config

Home » Administration » Configuration » Search and metadata » Apache Solr search

Apache Solr search

DEFAULT INDEX

Acquia Search: Search Index Content

TYPE	VALUE
Indexed	350 Items (10.26 MB on disk)
Remaining	10498 items (3% has been sent to the serve
Schema	drupal-3.0-rc2-solr3
Solr Core Name	CEGX-37181
Delay	2 min 10 sec before updates are processed.
Pending Deletions	0

View more details on the search index contents

ACTIONS

Index queued content (50) — Indexes just as many items as 1 cron

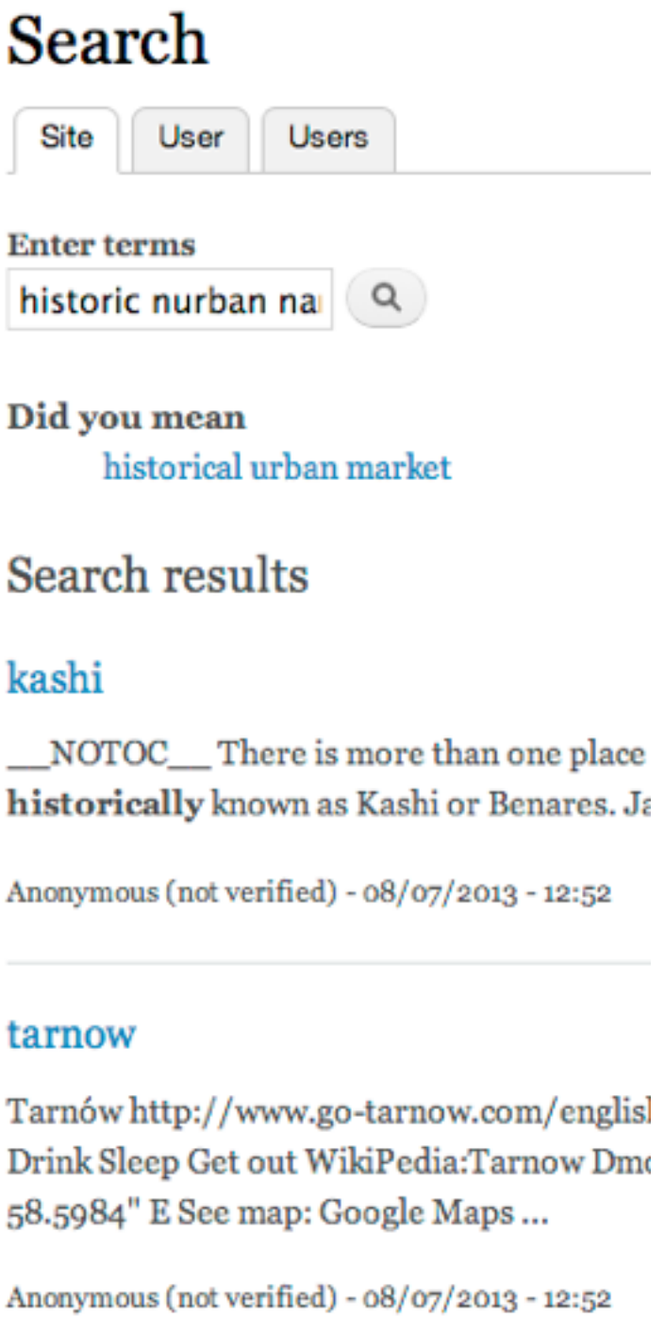
Index all queued content — Could take time and could put an incre

Queue all content for reindexing

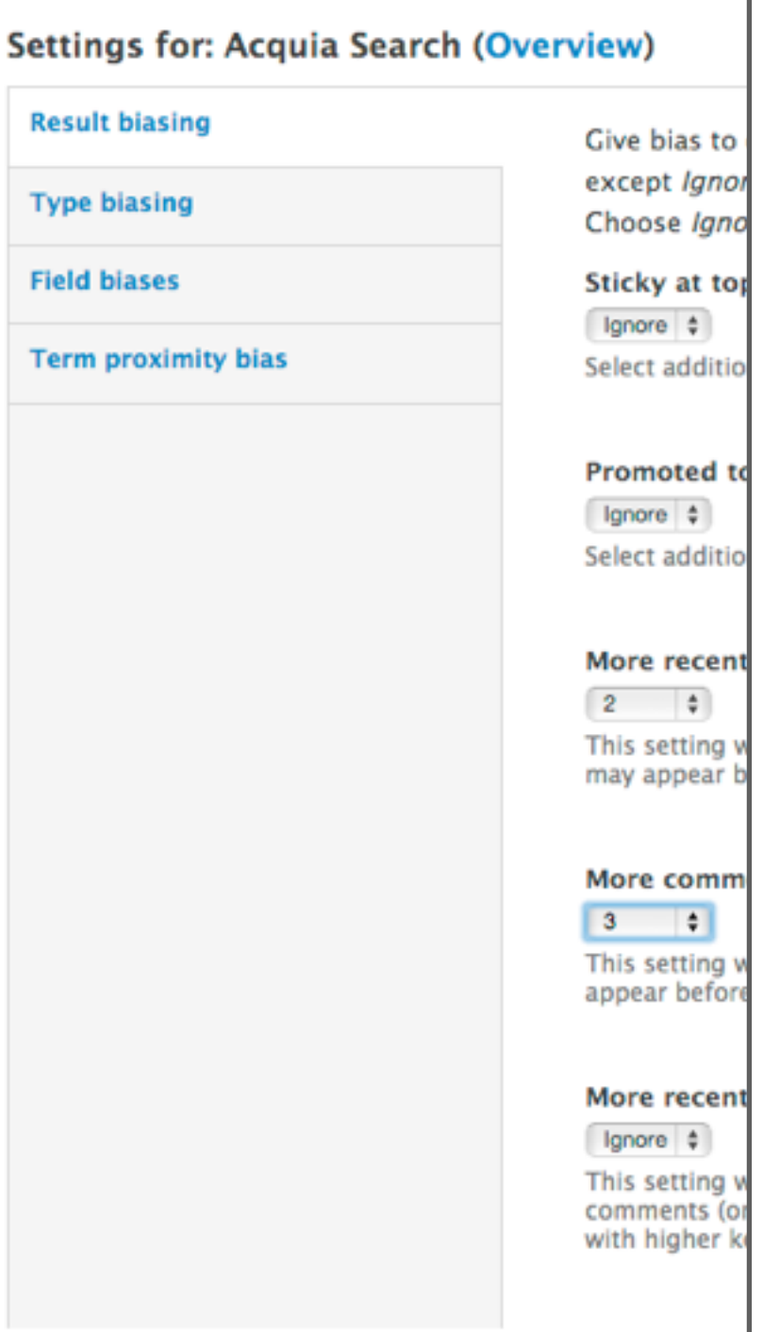
Delete the Search & Solr index — Useful with a corrupt index or a

Available with Solr

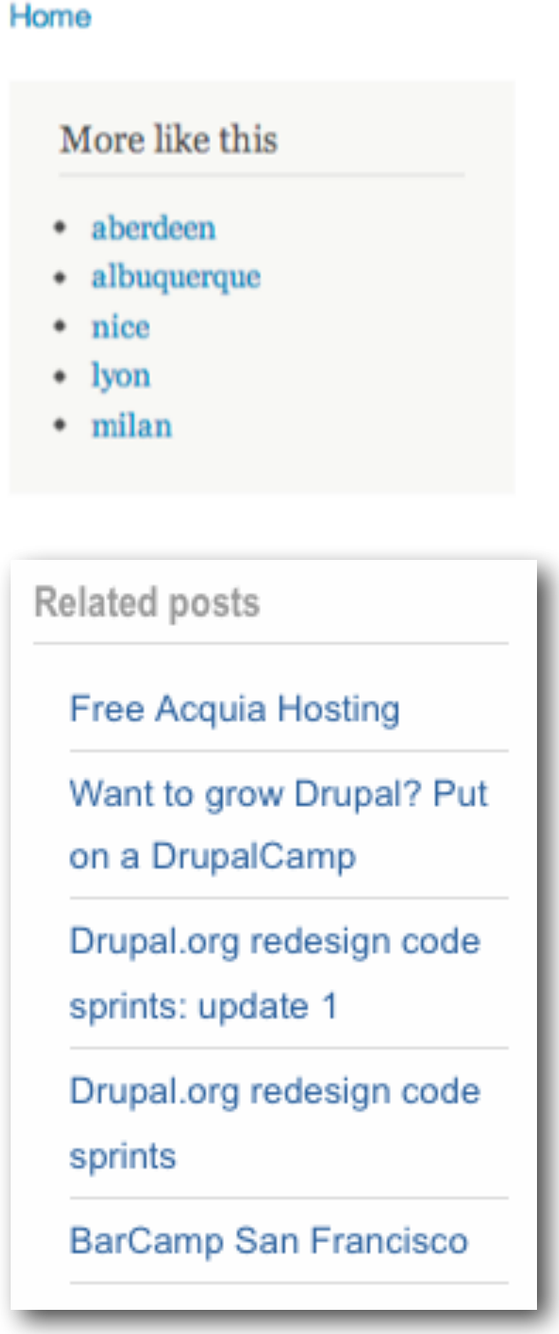
Spell checking



Bias settings

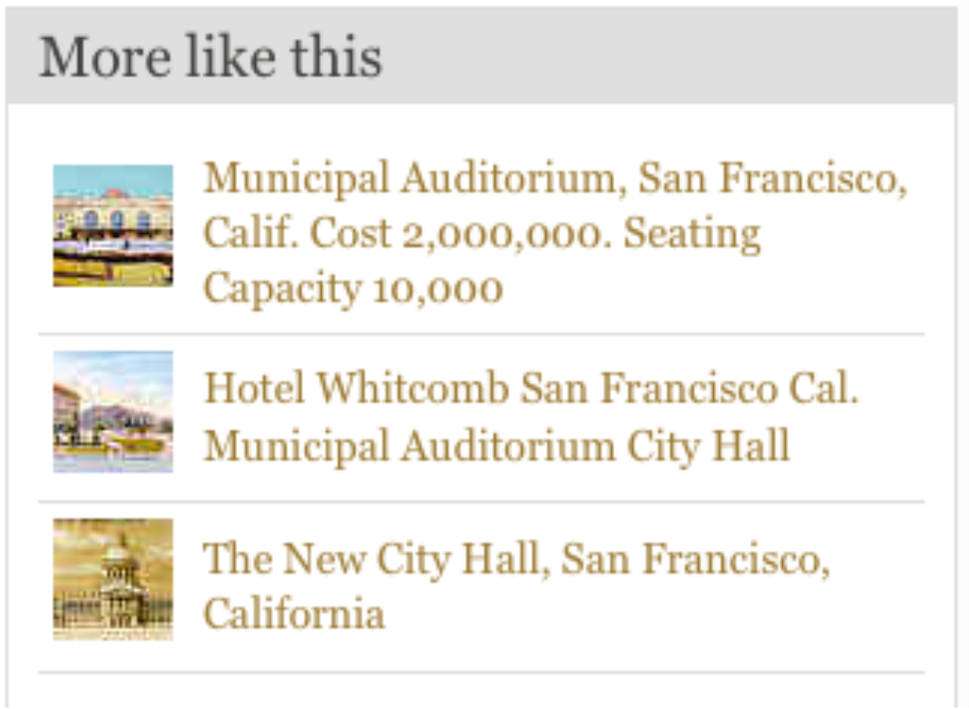


Suggestions



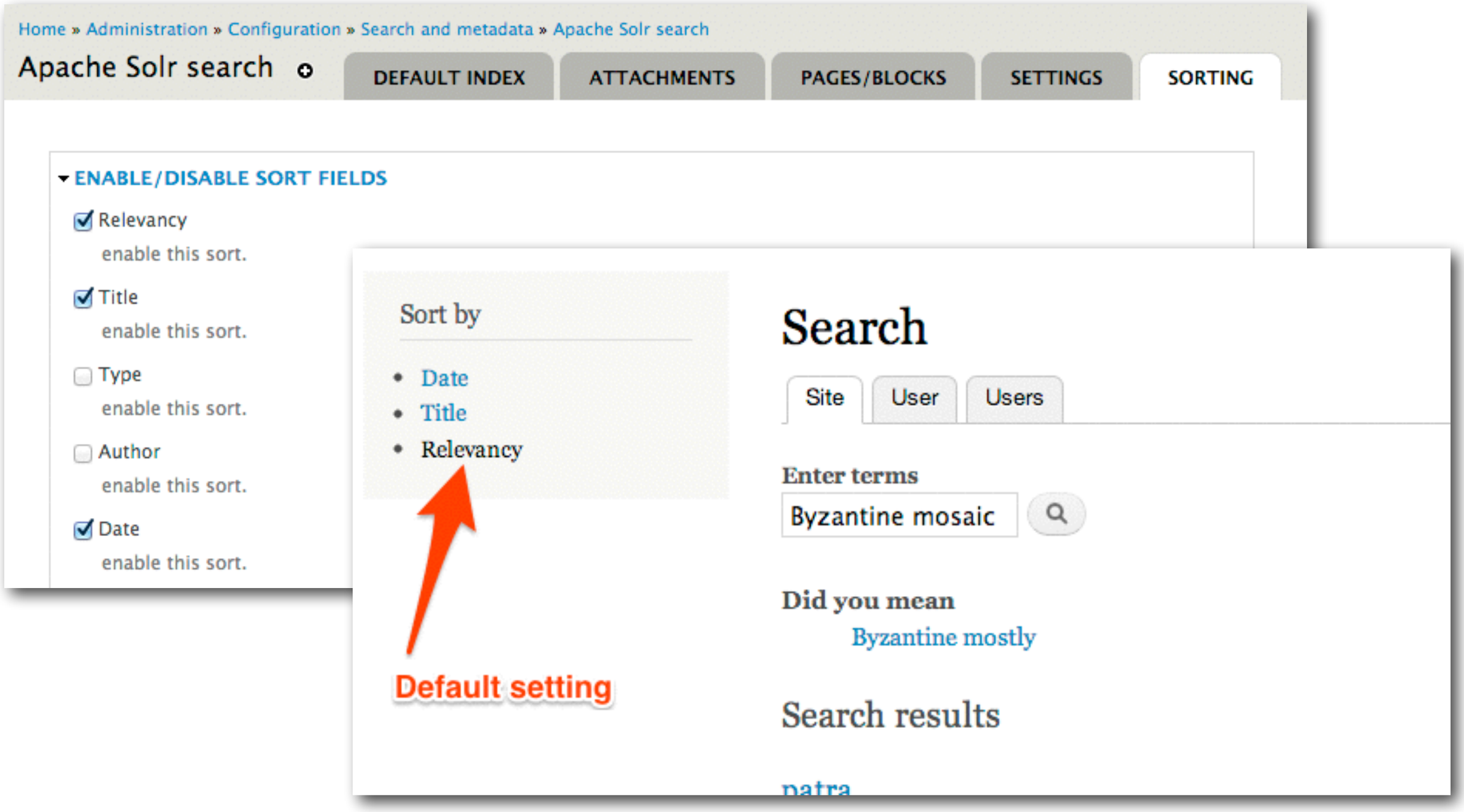
“More like this”

- Example from NIH.gov:
  Instead of using Entity reference fields.
- You can configure multiple suggestion blocks for specific content types or site sections.



Sorting options

- A block to allow users to alter sort.



Demo: What comes with Solr?

- Enable the modules.
- Index the site. What is indexed?
- Spelling correction offered out of the box, difference with core search.
- Re-index, when does “cron” run?
- More like this block, place and configure.
- Search page configuration under Pages/ blocks.

Exercise 2: Configure Solr search

- A. Ensure search is installed and enabled
- B. Index site
- C. Review default results
- D. Configure your search page
- E. Place a “more like this” block on your site.

Boosting relevant results

SECTION 3: HOW TO IMPROVE SEARCH

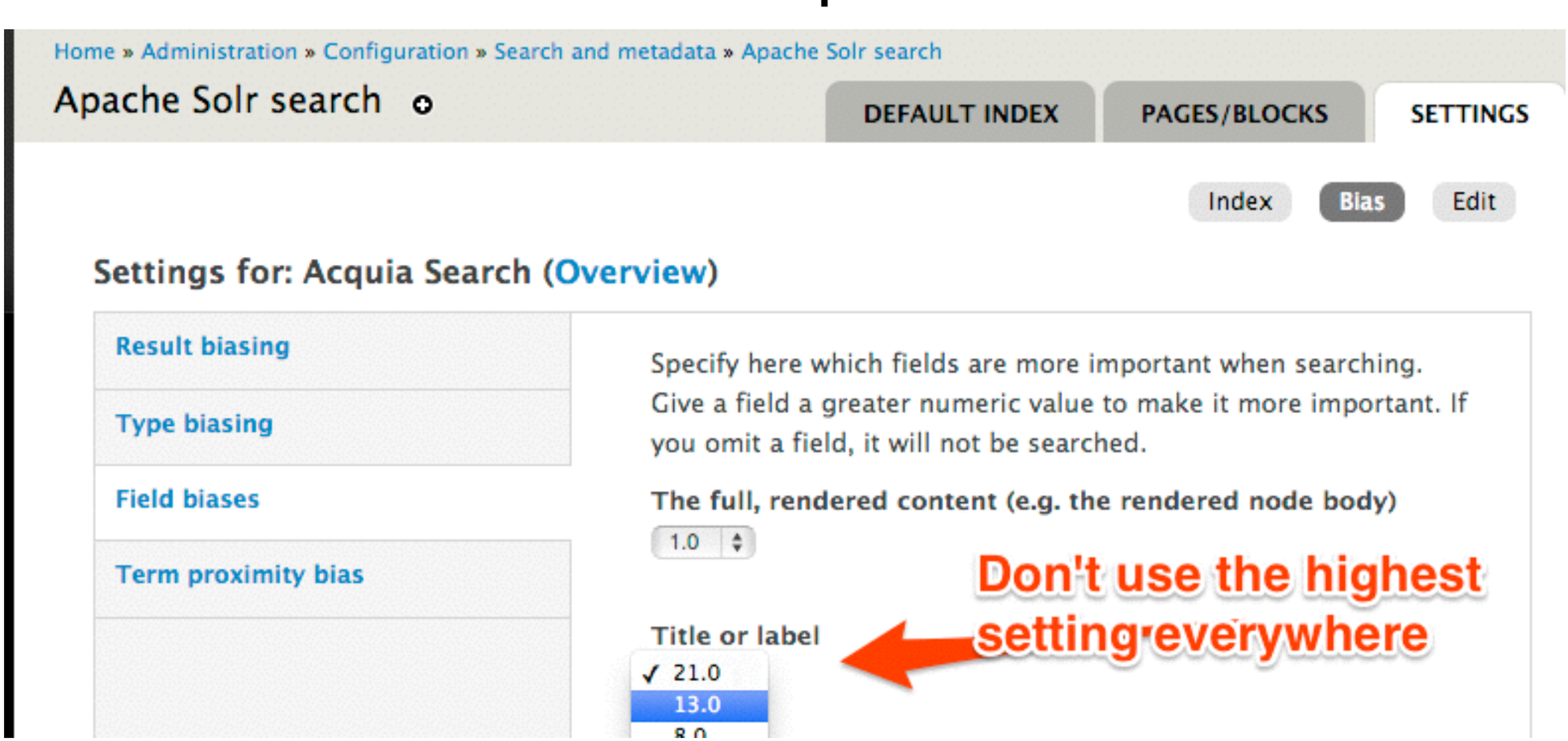
Ways to optimize search

Optmization options

- Phrases
  - Search for sentences, phrases
- Optimize search for specific use cases
  - More recent content, is it more relevant?
  - Content with comments, are they more useful?
  - Body content, use of H2 and H3?
- Synonyms
  - synonyms.txt -

Demo: Optimize results

- Bias settings
- When changes take effect
- Before and after examples



Exercise 3:
Optimize your search results

A. Test search before changes

B. Improve the result biases

C. Testing the changes; how to check the Index

D. Improve term proximity results

E. Improve bias based on fields and terms

Filtering and displaying results

SECTION 4: FACETS AND WIDGETS

Facets: What users want

Facets provide useful filters

Shows what it's filtered on

Search

84 SEARCH RESULTS FOR "RUNWAY"

SORT BY: Relevance | Date
FILTER BY: All (2069) Seasons (2) Videos (1025) Photo Galleries (233) Blogs (721) Episodes (84) Games (1) Features (3)

84 Results 1 of 6 pages

Episode — JUNE 19, 2013

Ep 4: Fashionable Foodies

Chef Roblé keeps it all in the family when he caters at New York Fashion Week for the debut of his cousins' clothing line, Mataano.

CHEF ROBLE AND CO · SEASON 2, EPISODE 4

Episode — JANUARY 11, 2013

Ep 12: Battle of the Booty

Kenya decides to produce her own fitness video -- "The Stallion Workout" -- to rival Phaedra's donkey.

THE REAL HOUSEWIVES OF ATLANTA · SEASON 5, EPISODE 12

Episode — JULY 27, 2011

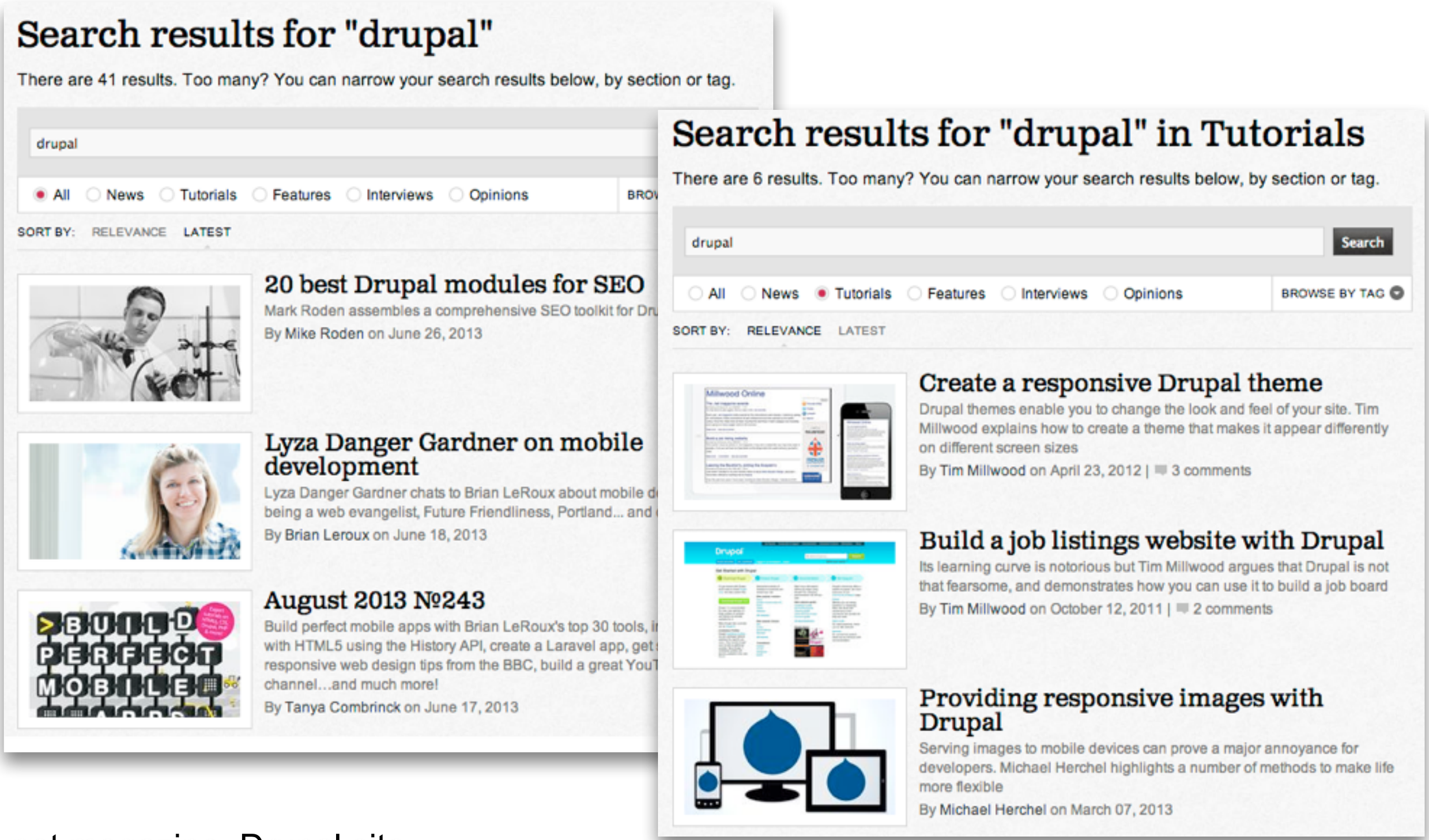
Episode 8: Runway Ready

Chefs compete to create a line of dishes inspired by both handmade, high-end fashion, and mass produced, ready-to-wear clothing.

ROCCOS DINNER PARTY · SEASON 1, EPISODE 8

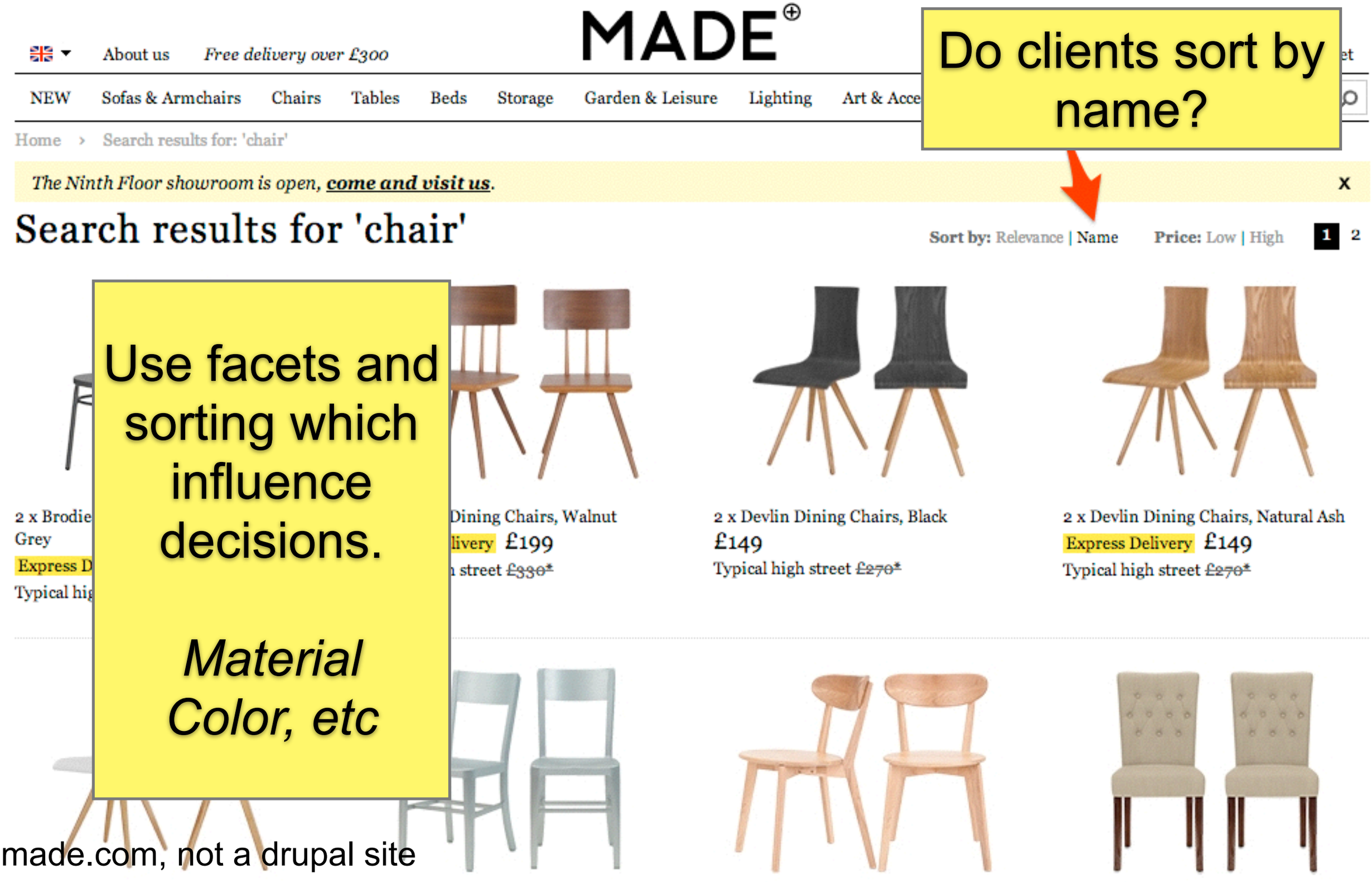
Bravo.com, Drupal site

Select content



.net magazine, Drupal site

Offer facets people need



Do clients sort by name?

Use facets and sorting which influence decisions.

Material
Color, etc

made.com, not a drupal site

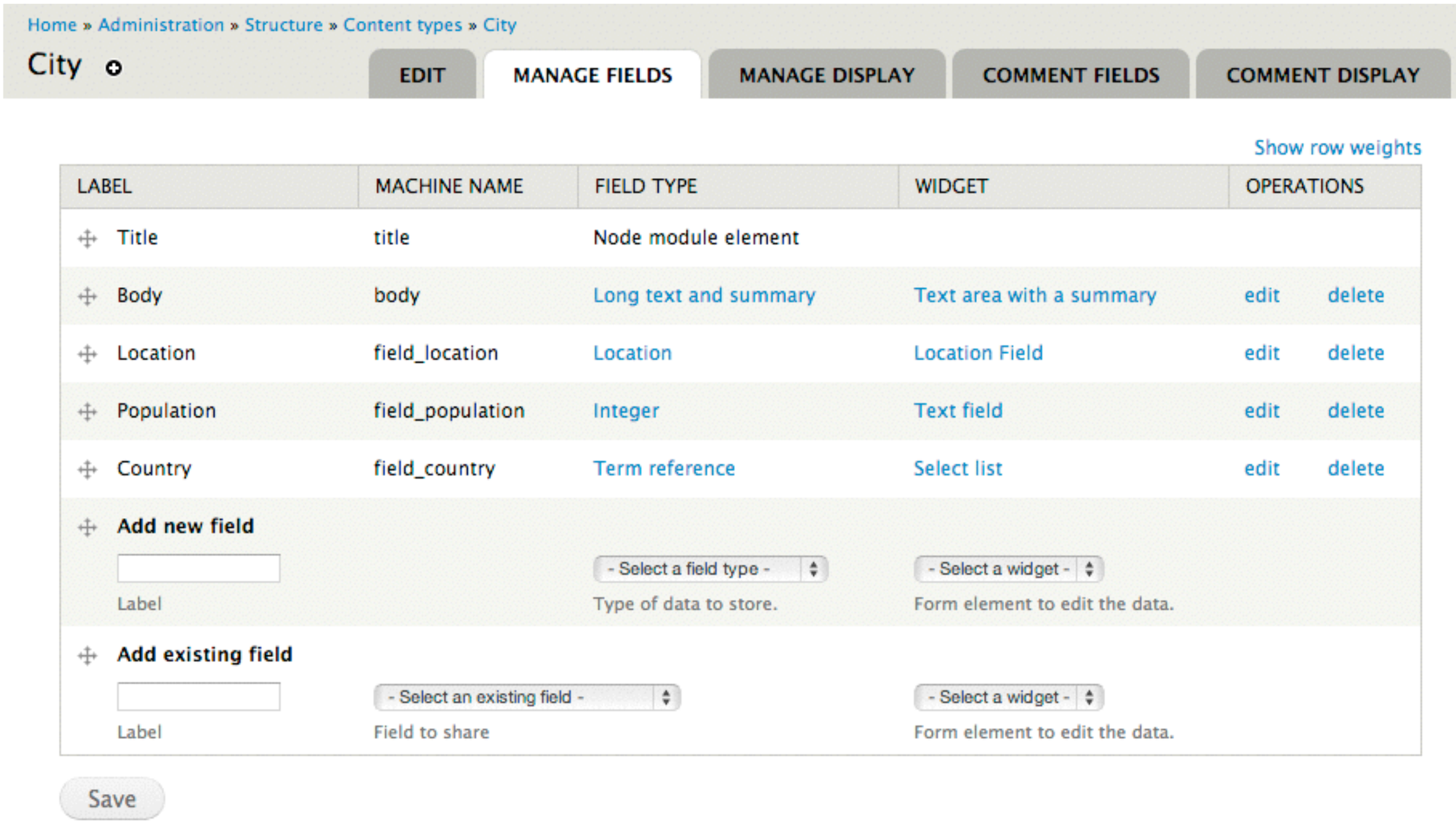
Tips to define facets

- Listen to users
  - Analyze query logs to define facets.
  - Use popular words to label facets.
  - Check competitors and across your industry.
- Choose important facets
  - On which facets do people make decisions?
  - Which features influence a purchase?
  - Plan content types *for* searching
  - Depends on your content model, taxonomy, fields!

http://uxdesign.smashingmagazine.com/2009/12/08/principles-of-effective-e-commerce-search/

How are our users searching?

- What facets would you enable on this site?

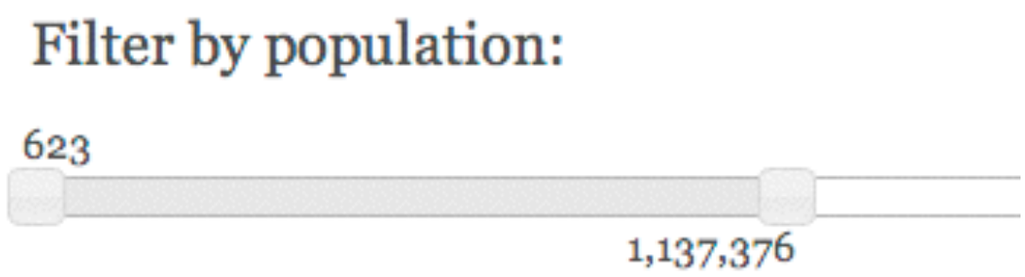


Facets API in Drupal

About Facets

- For each facet you configure:
  - A **display widget**
  - A corresponding **query type**.
  - A block to place, some examples:

Example display widgets

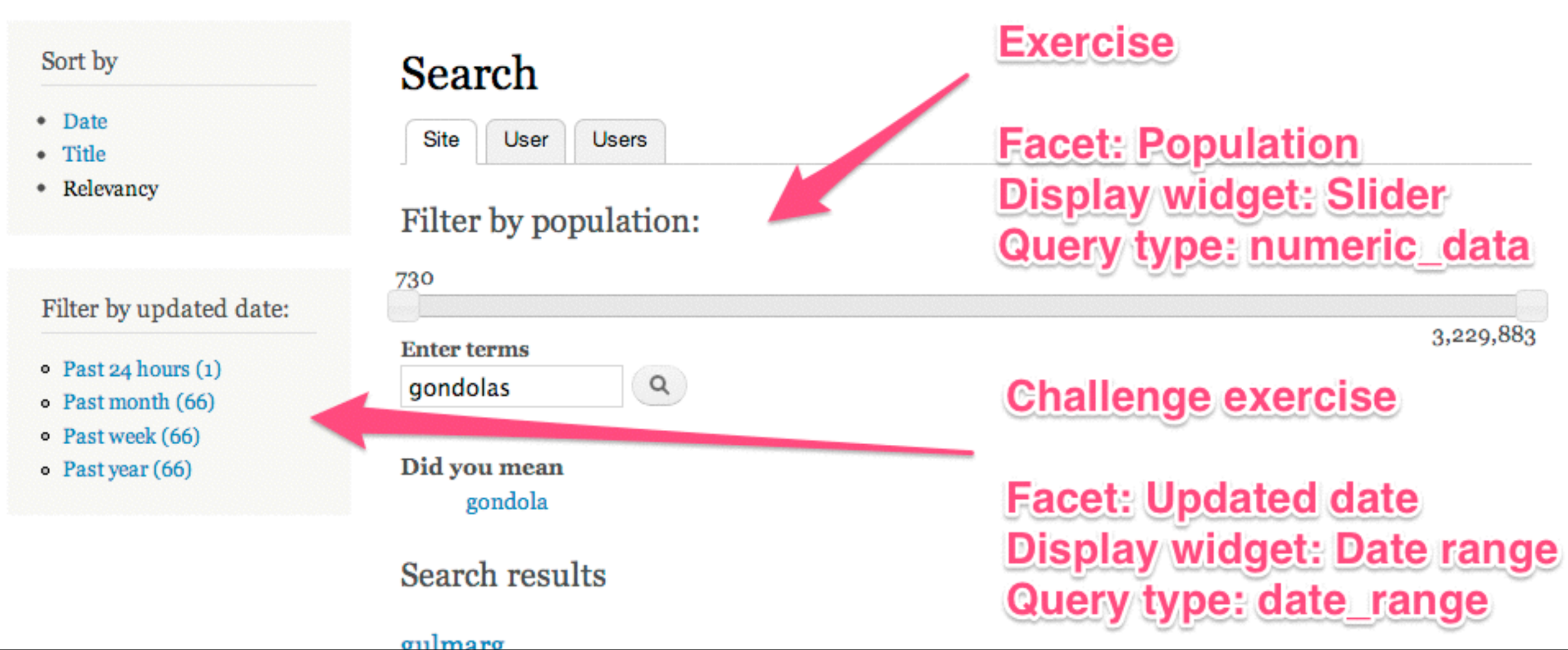
With Facet API	Additional modules
Links 	Tag cloud drupal.org/project/facetapi_tagcloud
Links with checkboxes 	Slider drupal.org/project/facetapi_slider 

Demo: Configuring facets

- Enable the module.
- Review options for configuring facets for different displays.
- Display widgets, relate to specific queries.

Exercise 4: Configure a facet slider

- A. Configure the facet options
- B. Place the population facet block
- C. Test the search
- D. Enable the slider for display
- E. Test the search again



SECTION 5:
HOW TO IMPROVE USER EXPERIENCE

The user experience

Established standards

- Users expect the search form to be... where?
- Queries
  - Should be easy to refine
  - Incremental construction
- Results
  - Display the query
  - Easy to read key information

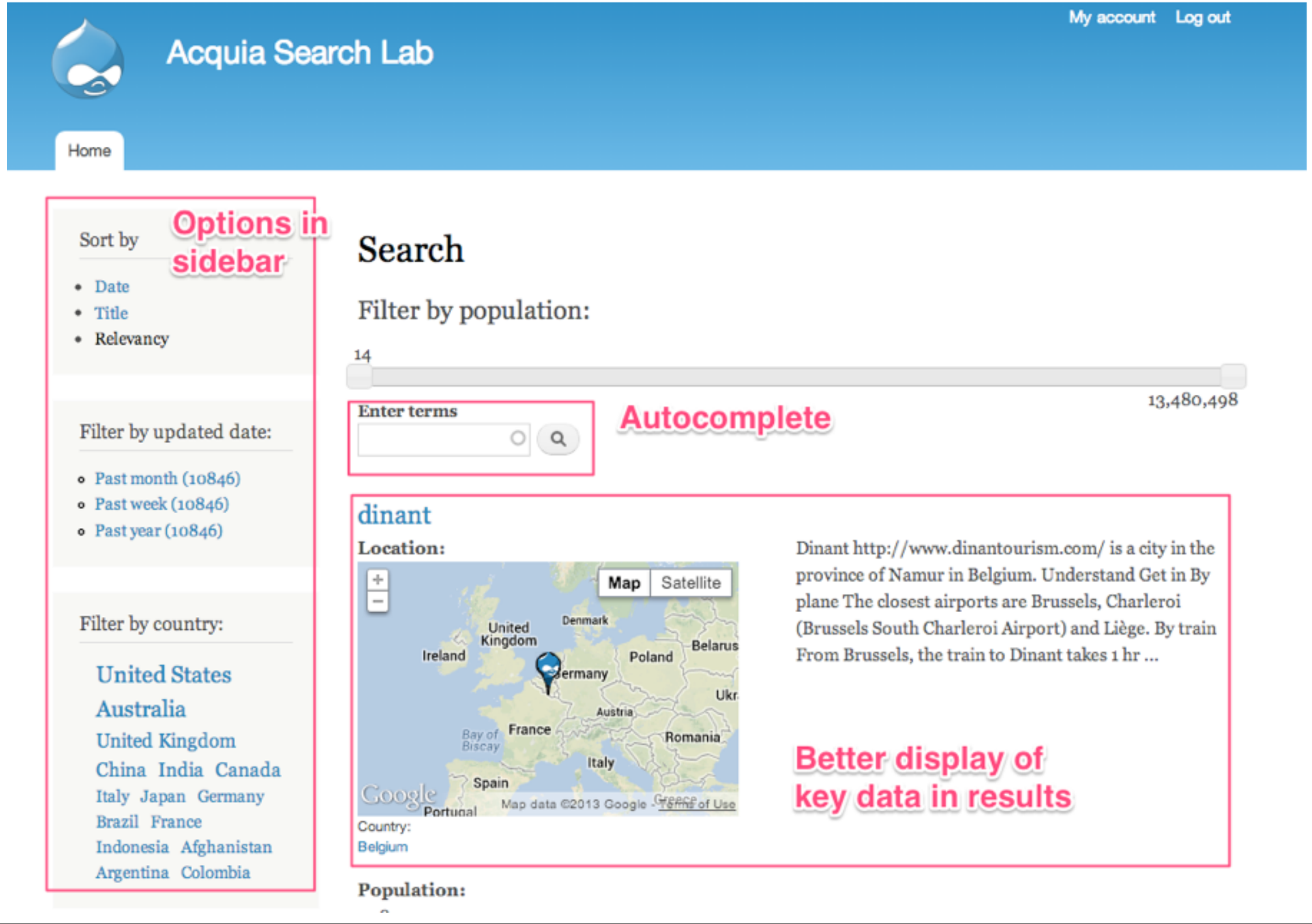
http://uxdesign.smashingmagazine.com/2009/12/08/principles-of-effective-e-commerce-search/

Beyond the defaults

- Limitations:
  - Default results don’t show relevant data specific to your site: dates, numerical data, location maps.
- Better:
  - **Landing page** revealing the content
  - Better **search bar with suggestions**!
  - Key information in results with **custom displays**.
  - **Paths** which are easy to share and navigate.

Options to improve experience

Making improvements



Configure search page

Apache Solr search

DEFAULT INDEX | ATTACHMENTS | PAGES/BLOCKS | SETTINGS | SORTING

+ Add search page + Add search block "More Like This"

Pages

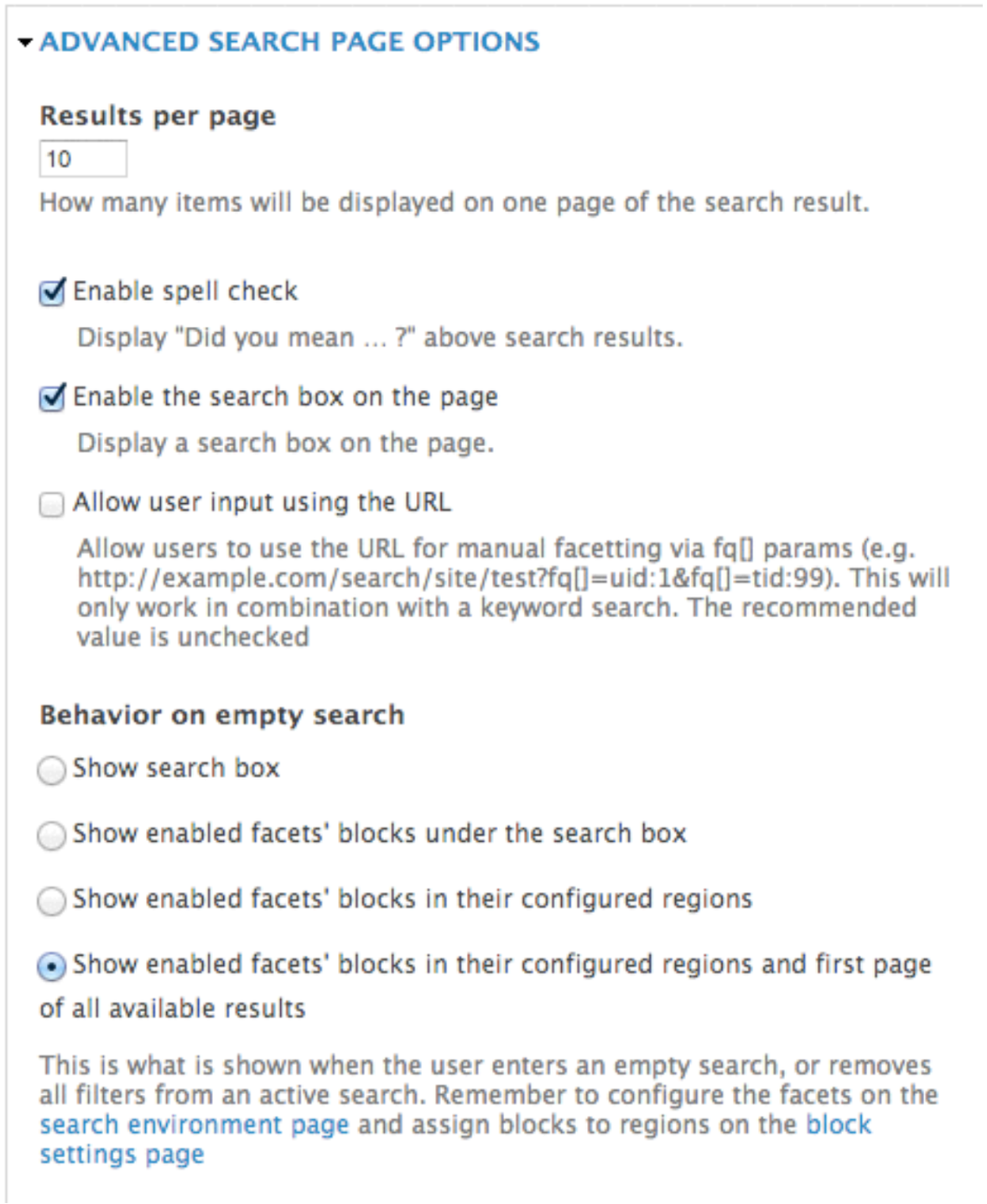
NAME	PATH	SEARCH ENVIRONMENT	OPERATIONS		
Core Search *(Default)*	search/site	Acquia Search	Edit	Clone	Delete
Taxonomy Search	taxonomy/term/%	<Disabled>	Edit	Clone	Delete

Blocks "More Like This"

NAME	SEARCH ENVIRONMENT	OPERATIONS	
More like this	Acquia Search	Configure	Delete

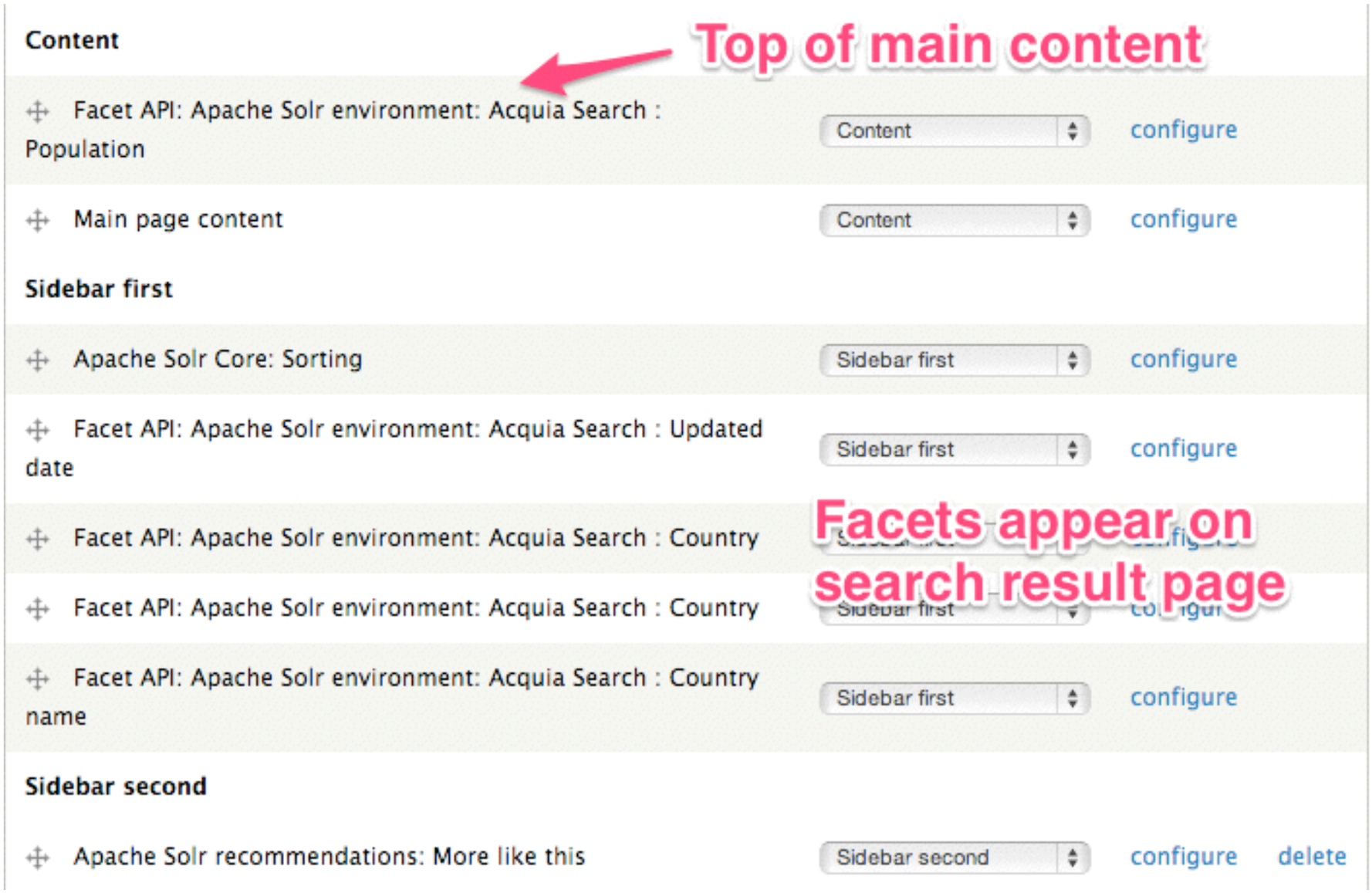
Search page options

- How many results?
- Enable spell check?
- Show search box?
- Enabled Facets?



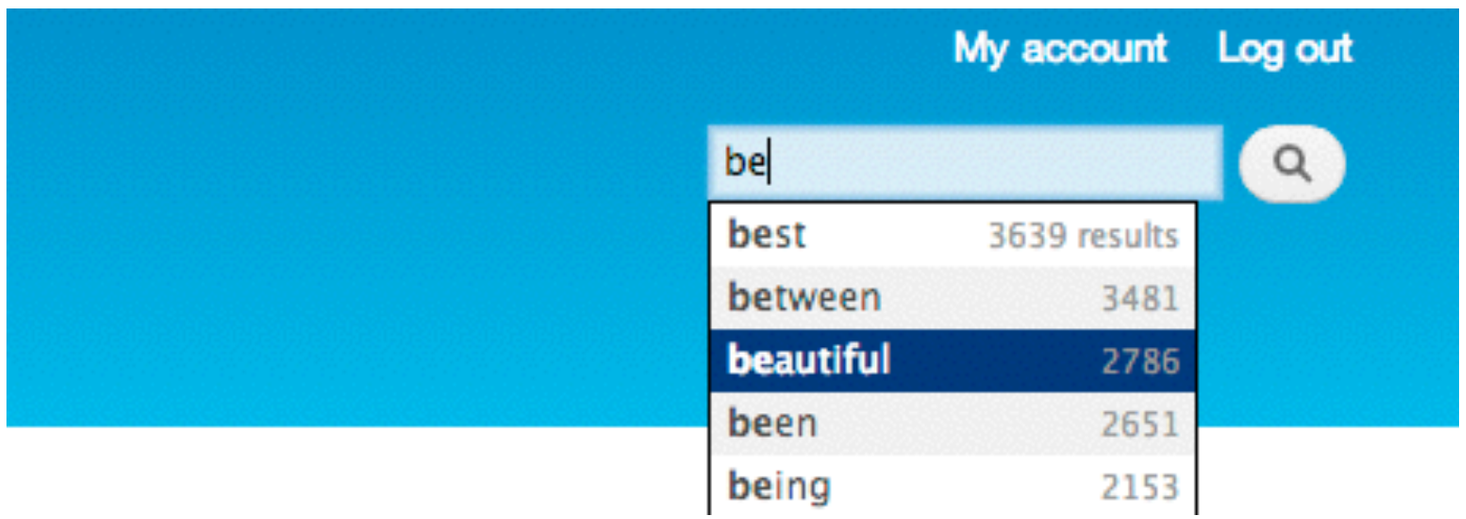
Facet block placement

- Double check your facet block configuration.
- Where to display? Search box in header?



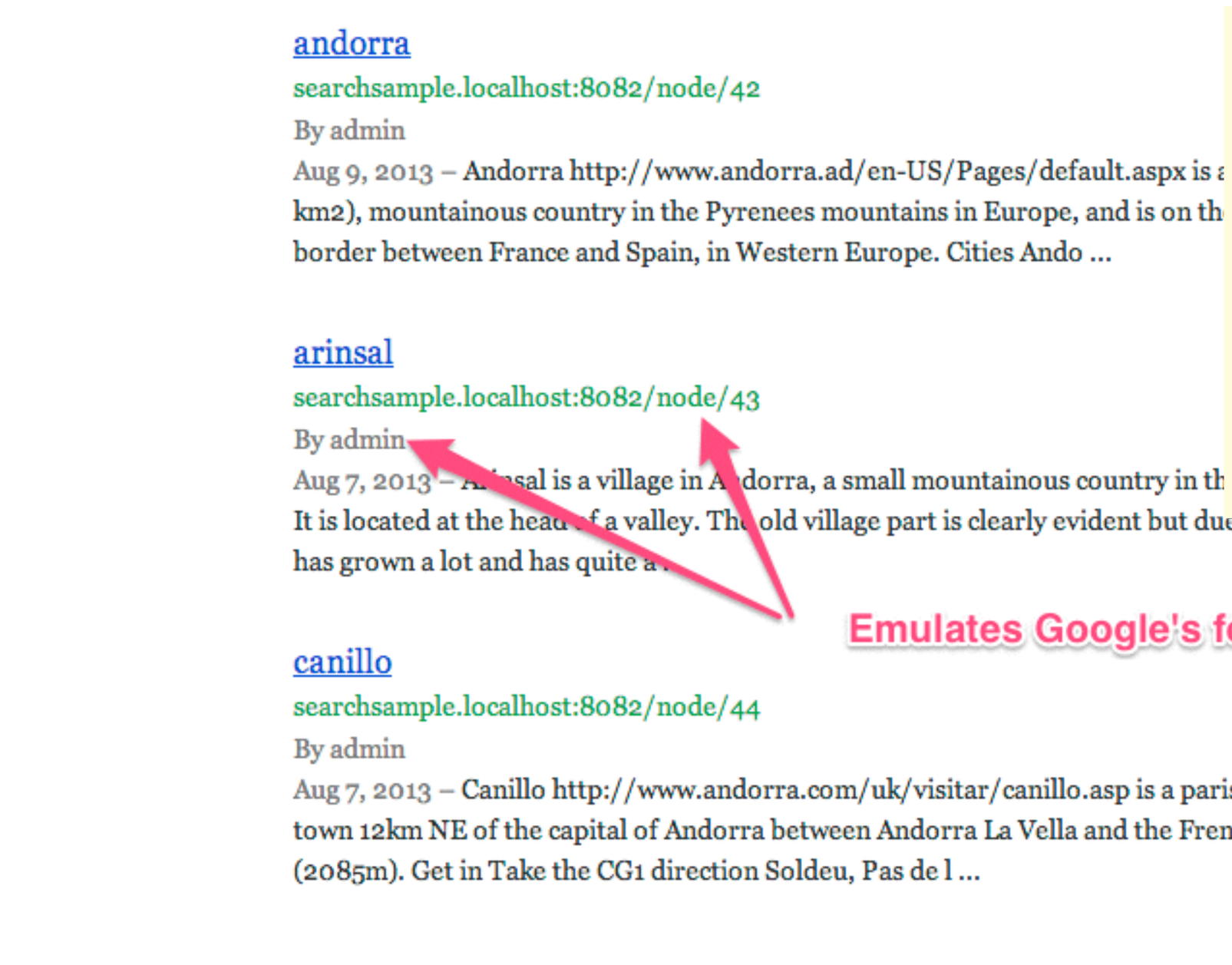
Demo: Apache Solr Autocomplete

- Enable Apache Solr Auto Complete.
- Uses stemming so verb forms are picked up as well.
- Becoming standard, what users want.



Demo: Rich snippets

- Replicates Google's results; Needs RDF!



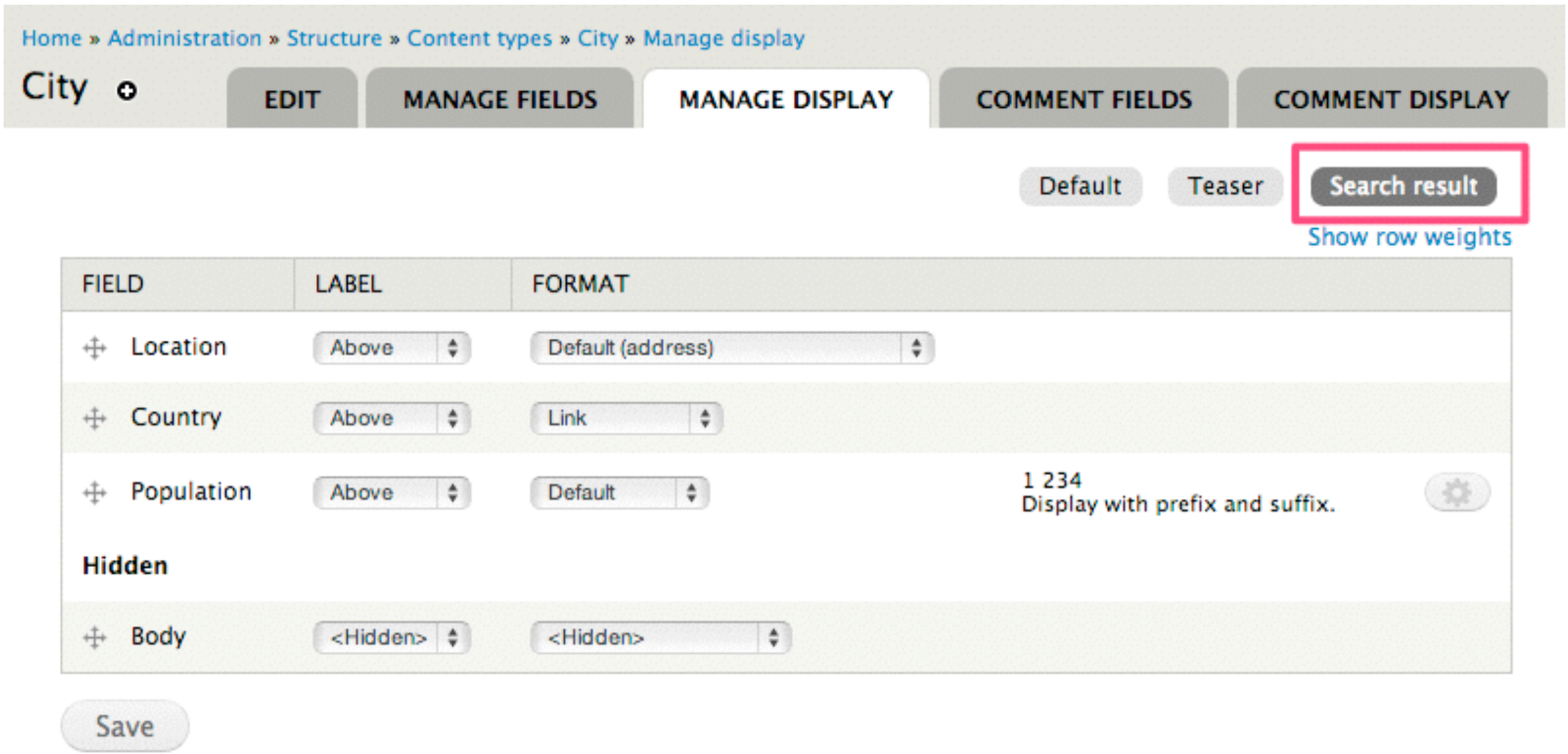
Tip: If you install this during demo, please ensure to disable this for next exercise

Demo: Search page configuration

- Where you configure Pages/blocks
- Demo how to change options

Next: Manage display

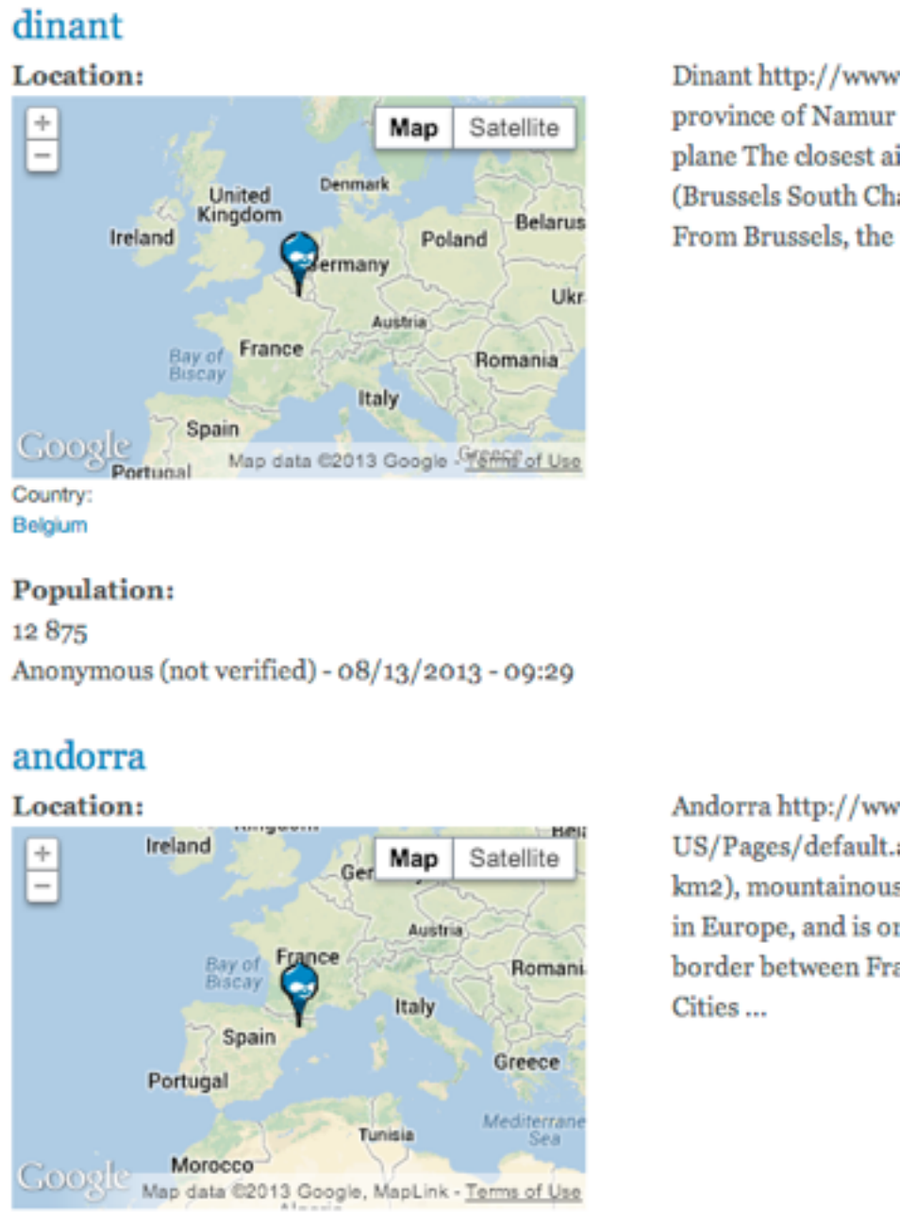
- Control the display for “Search results”
- Limited options; only fields



Display Suite for Search results

Display Suite!

- Display Suite +
  Display Suite Search
  - (and Display Suite UI)
- Custom layout
- Select which fields to display
- Multiple columns, headers and footers.



Example

Header

Two day tour of Tralee!

December 01, 2011
siteadmin
Continental breakfast included
Rose of Tralee festival

Left

Right

Etiam mollis nunc velit. Donec nibh sem, varius non scelerisque sed; cursus in urna. Ut neque tortor, gravida nec porta a, suscipit a arcu. Quisque dui velit, molestie sollicitudin facilisis non; ullamcorper in turpis. Fusce ut ligula sit amet velit varius semper.

Nulla facilisi.

Add new comment

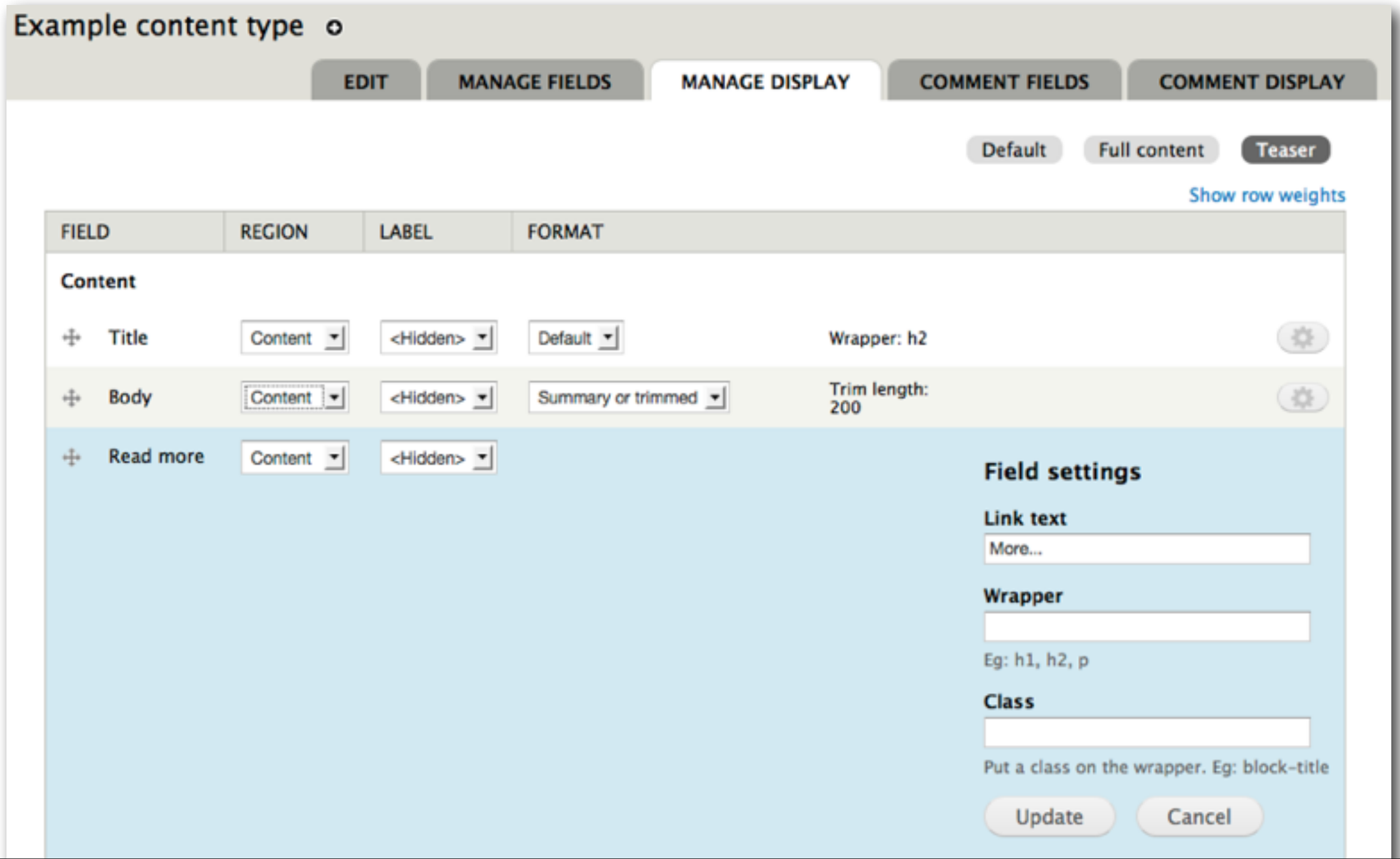
Your name
siteadmin

Subject

Footer

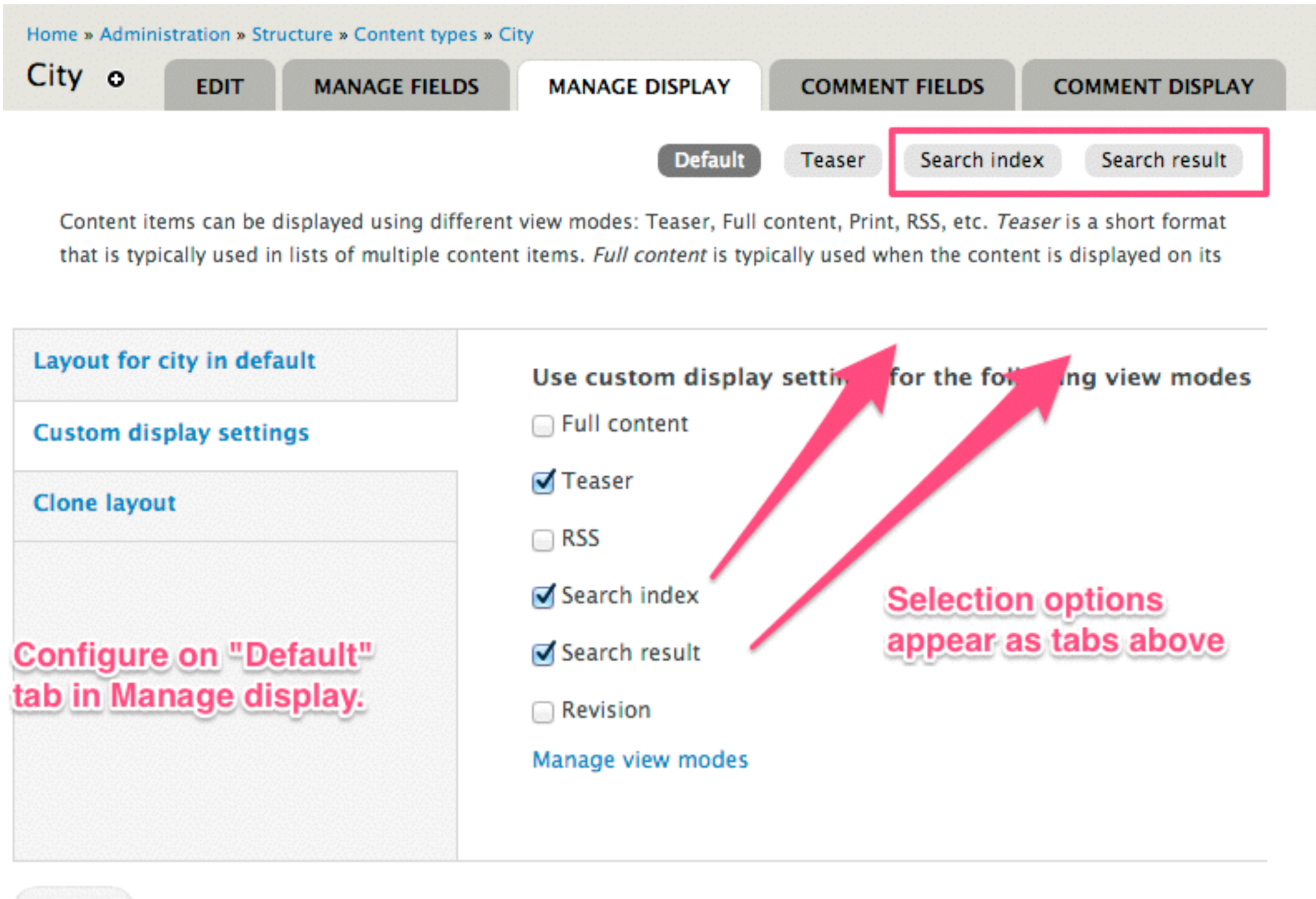
Display suite

- Access items which aren't "fields"



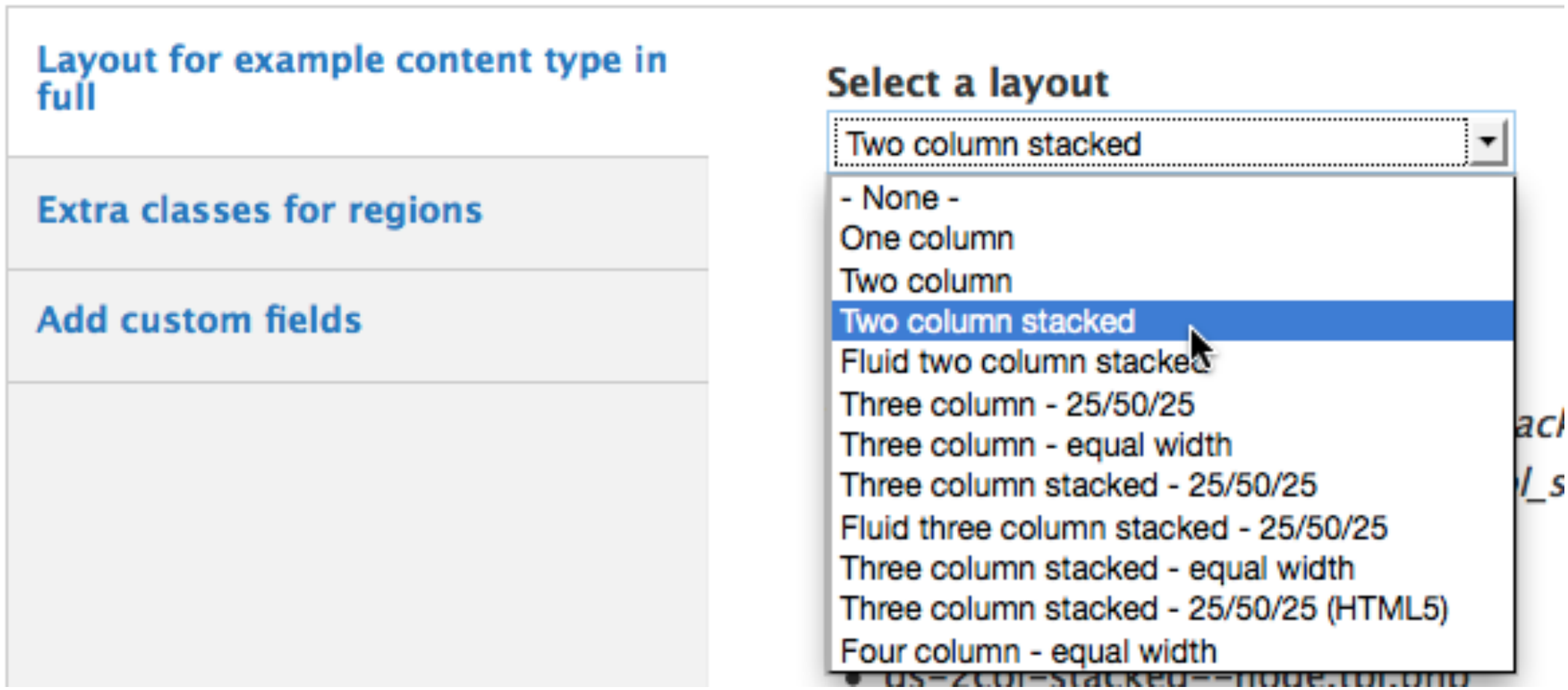
View modes

- Add “view modes” for specific control

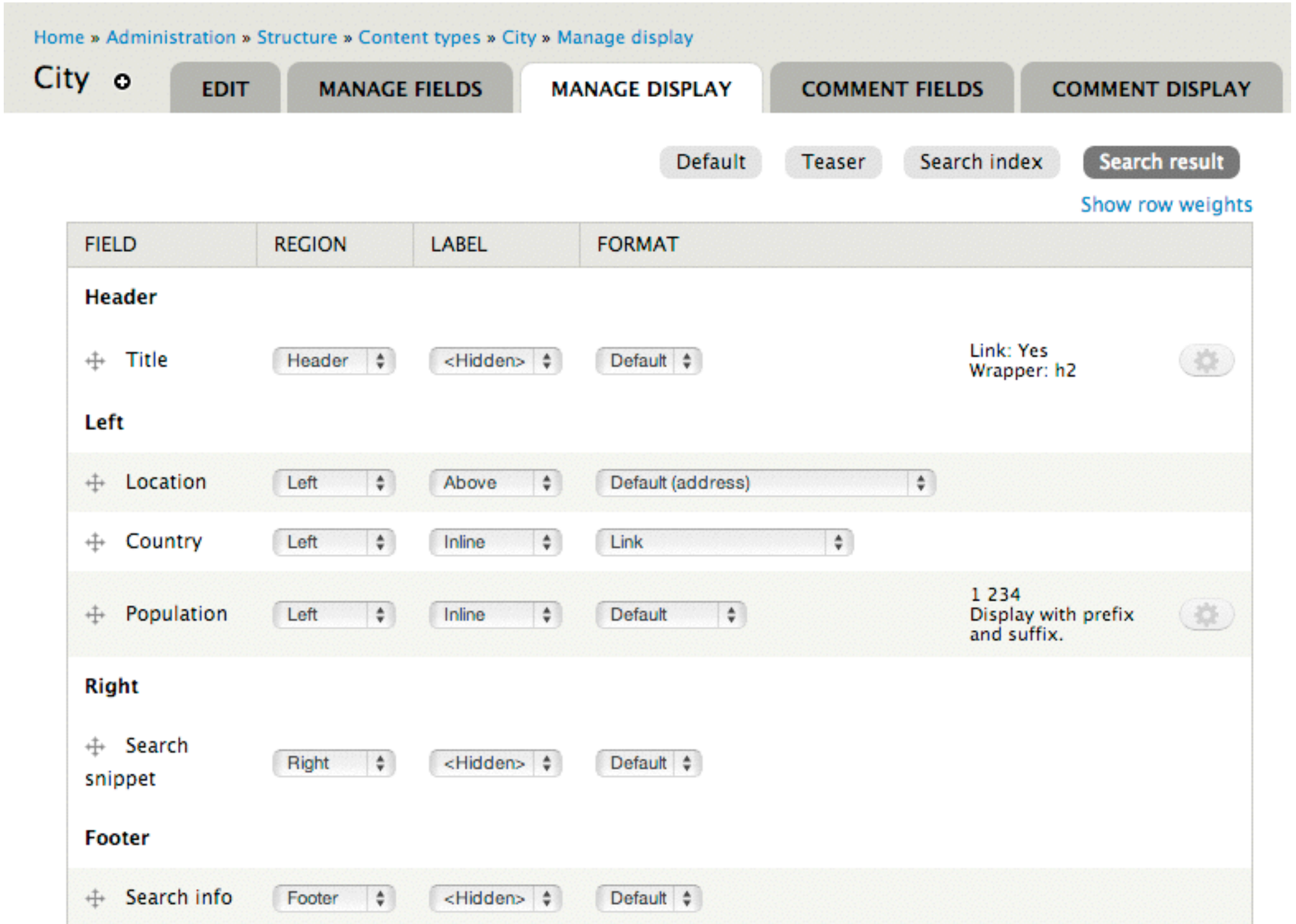


Display Suite regions

- Variety of layouts



Arrange fields in regions

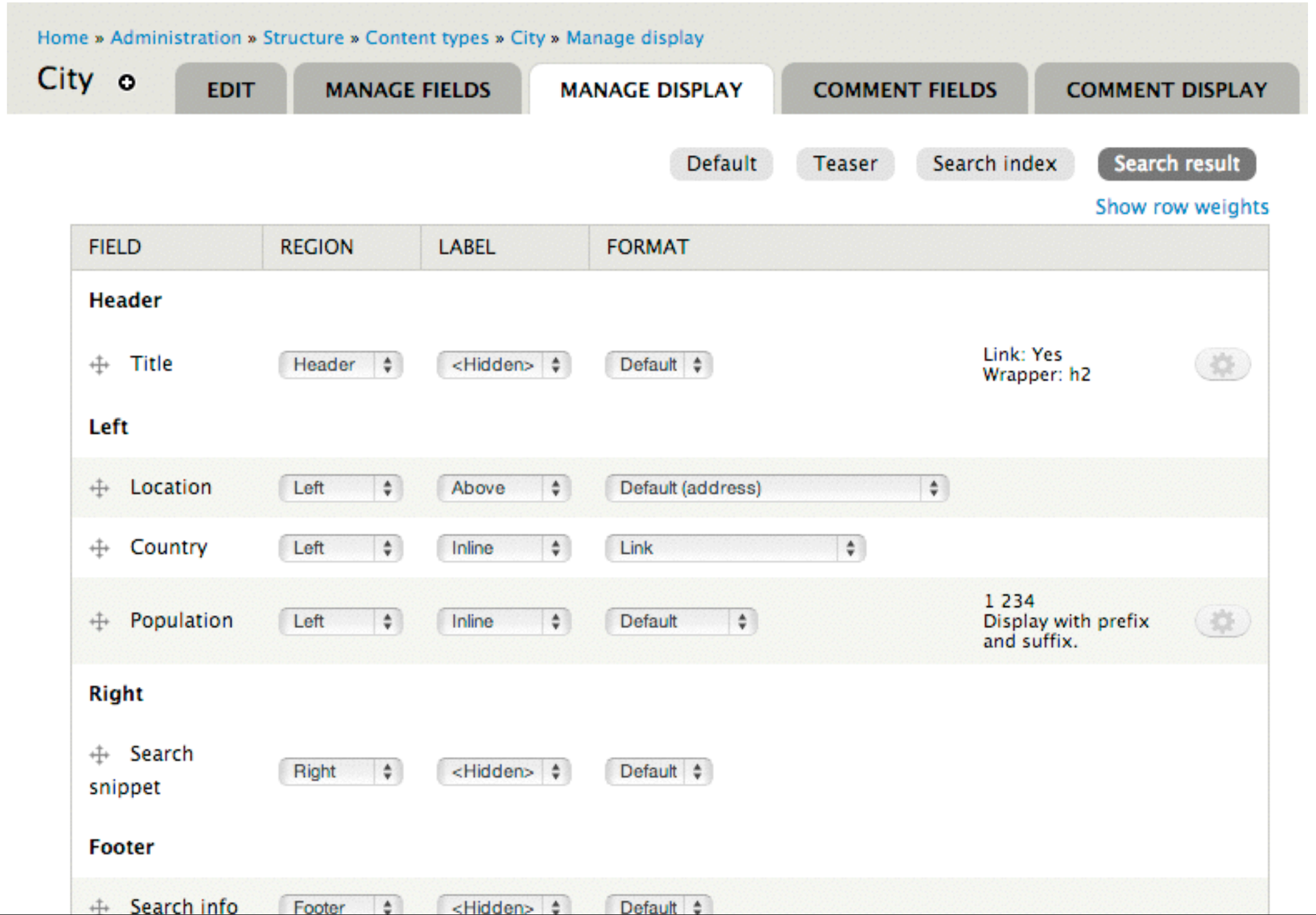


Demo: Display Suite

- Enable Display Suite, Display Suite Search, Display Suite UI
- Modify display and change layout for “Search result”
- Show what “Search index” provides.

Exercise 5: Improve display with Display Suite

- Manage display, Choose relevant fields



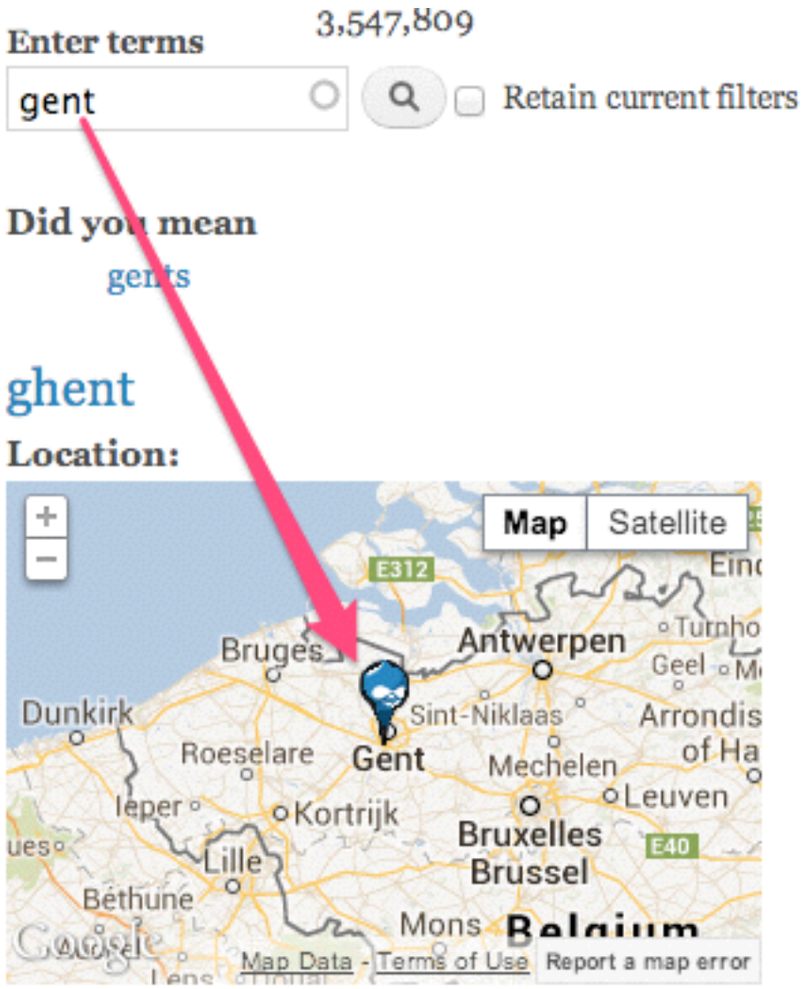
Example of custom code

SECTION 6: CUSTOM CODE - PROXIMITY SEARCH

Display location search results

Location data in search

- Takes the coordinates of the search, and returns to the query.



1 km from requested destination

1 km from requested destination

Anonymous (not verified) - 08/07/2013 - 12:52

aalst

Location:

25 km from requested destination

25 km from requested destination

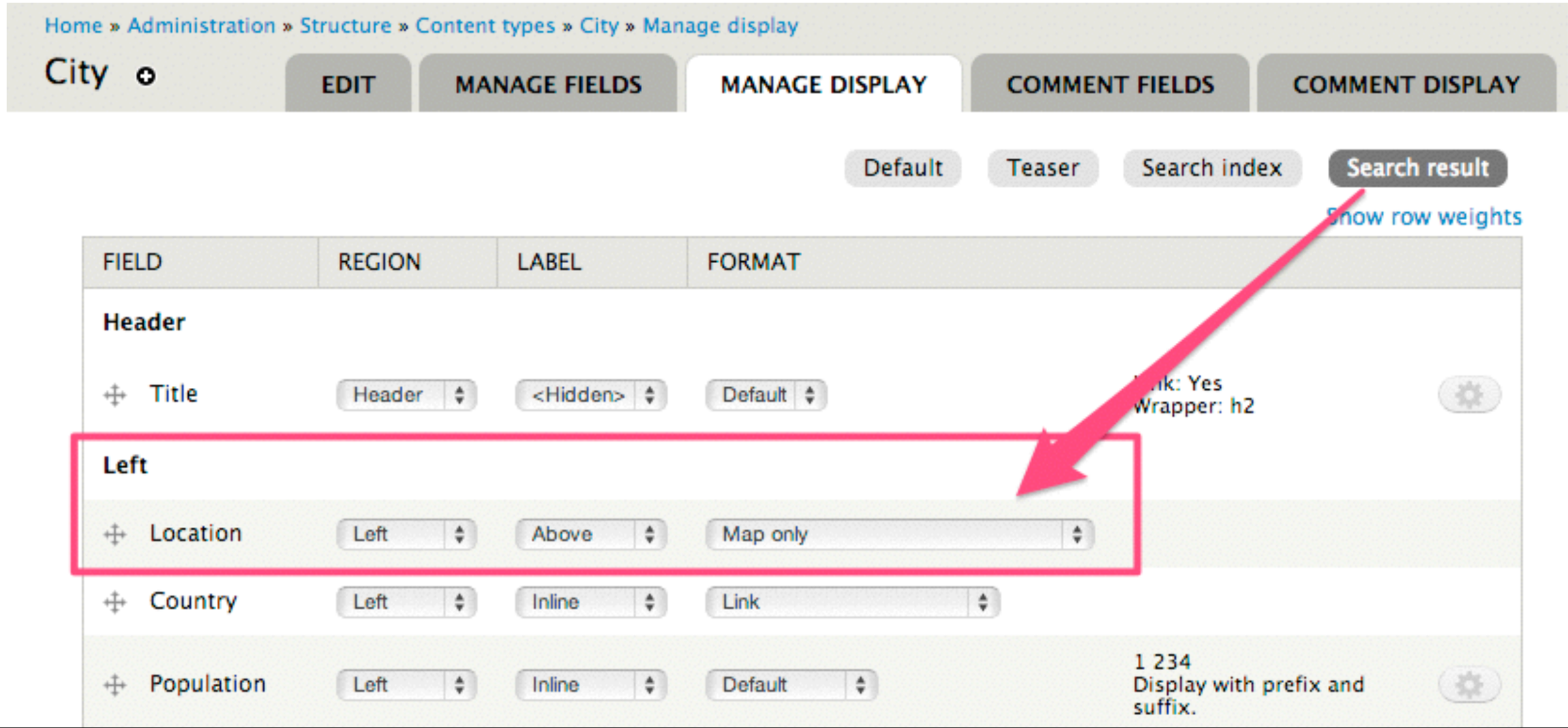
Demo: Location results

- Use Display Suite to display a location on a Map.
  - Which modules work best
  - Tips about handling Location data

- A custom code example- using location as a factor in search.
  - Search training Location module
  - Location Search module

Exercise 6: Display location results

- Requires: The Display Suite modules, GMap, GMap Location, Geocoder.



If time allows!

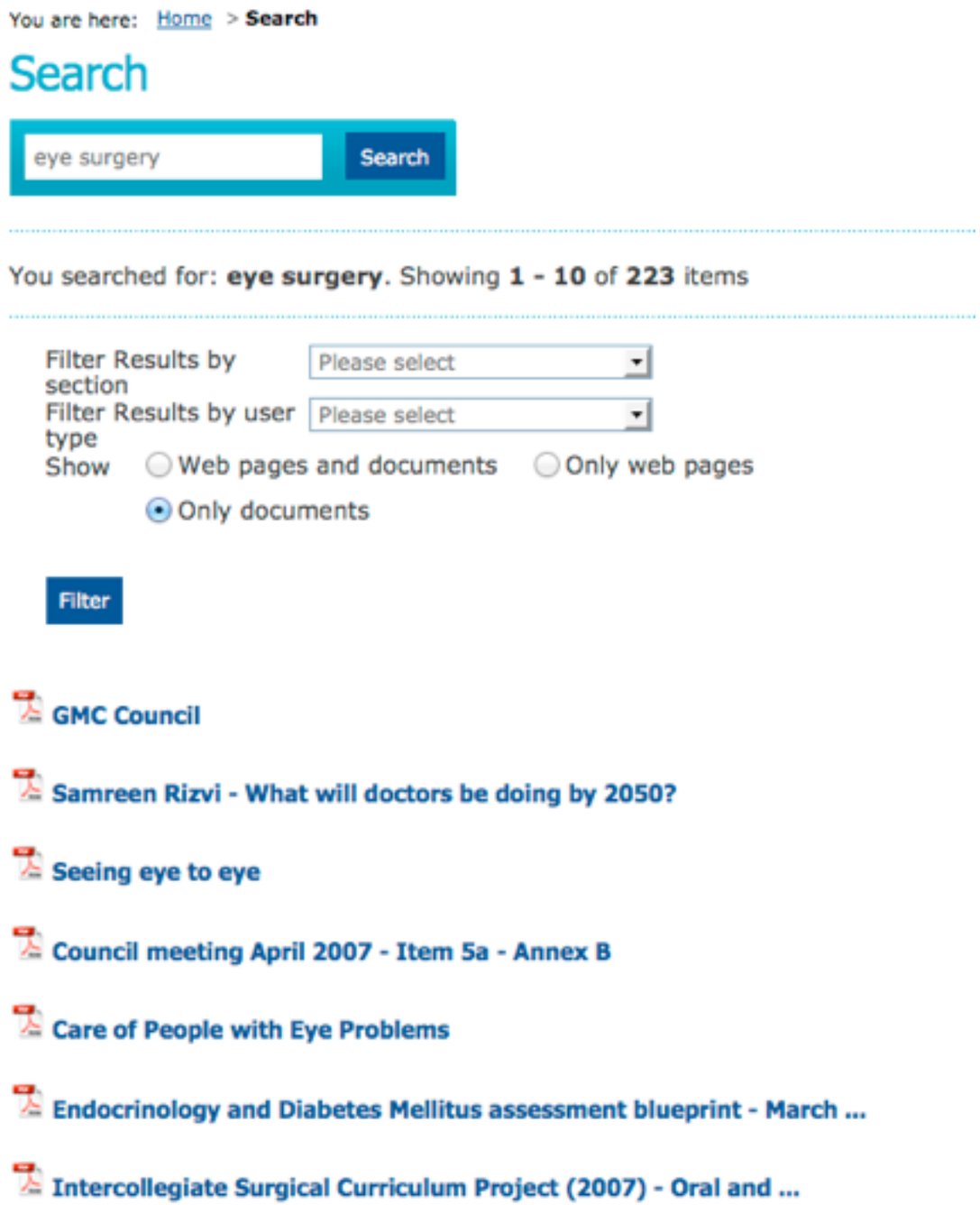
SECTION 7: ENHANCEMENTS

Search file attachments

Indexing files such as PDF or DOCX

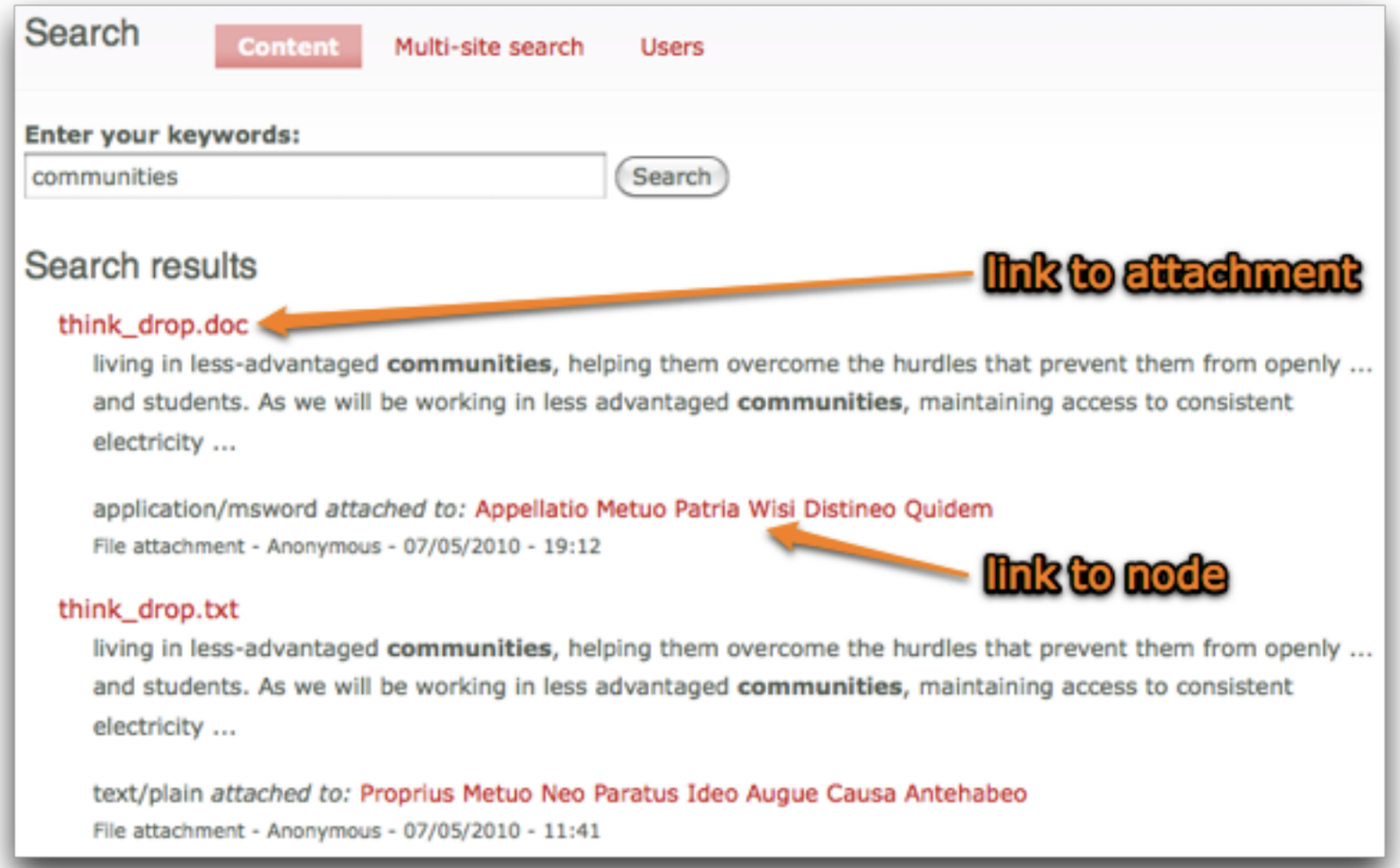
Search files

- Document search
- Server requirements

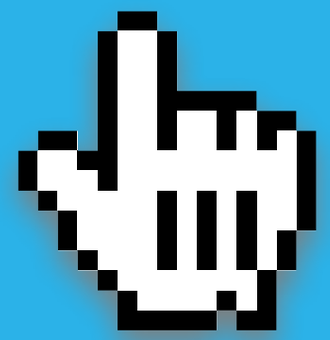


Demo: Attachment search

- Assumes you're using Acquia's search service
- Enable Apache Solr search attachments



ANY QUESTIONS?

http://acquia.com/training-feedback

Feedback please!