



BF Site Search.doc

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1 Modification History

Date	Who	Comments
23-Dec-11	Solveda	Initial
27-Dec-11	Solveda	Provided Visual Guideline for no-results
30-Dec-11	Solveda	Added requirements for Spell Check and Synonym processing. It's understood that the actual technical integration is pending research and a decision on the final selection.
25-Apr-12	Solveda	Site search default text set from System Parameter SEARCH_DEFAULT_TEXT
9-Jul-12	Solveda	Stated that search results, shown as a PLP, should contain all available facets (refers to <i>BF-Faceted-Navigation specs</i>)
22-Nov-13	Solveda	Added "exact phrase" rules for searching
19-Feb-14	Solveda	Added "shopping list search" capability
23-Apr-14	Solveda	"Add Row" button in Shopping List

2 Processing Rules

2.1 Default Display

- The Site Search entry box should have an initial helpful display text
- This will be set from the system parameter SEARCH_DEFAULT_TEXT
- It should be able to be “styled” in the CSS
- For example:

Enter keyword, SKU# or Item# ...	Search
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- When the user clicks on the entry box the help text will disappear (a feature of the CSS)
- Ensure text has been entered:
 - If no text is actually entered and the Search button or icon is clicked, the system still retains the help text in the entry box
 - Therefore, if the entry text is the same as the value in SEARCH_DEFAULT_TEXT then an error dialog box should be displayed
 - The message should show text from the system parameter SEARCH_NO_ENTRY_ERROR

2.2 Search Rules

- Any initial search should execute using all entered words as an “exact phrase” match
 - For example, if the phrase “red party dress” is entered then that exact phrase needs to appear in the name or descriptions in order to find a match
- If NO results are found using the exact phrase matching then re-execute the search using “all words”
 - For example, if the phrase “red party dress” is entered then results will be returned if the word “red” or “party” or “dress” appears in the name or descriptions

NOTE: these rules are particularly important when consumers use the “auto complete” function. Since we inviting consumers to select an exact phrase within the auto-complete we should honor that request in the search results

- If no results are found using the “all words” technique then processing will fall into the Spell Check processing

2.3 Results: Visual Guideline

- The Site Search should re-iterate the search phrase entered and the number of results produced

You searched for ‘red dress’

Your search produced the following results:

PLP Page

- The results are shown in the same format as the PLP. See more information in *BF-Faceted-Navigation* for details.

2.4 **No Text Entered**

- If the customer clicks on the Search button and text has not been entered, the a popup dialog box should be displayed with the following message:

“Please enter one or more terms to search for”

- The dialog box should offer an “OK” button, when clicked control is passed back to the underlying page

2.5 **No Results Found**

- if there are no results then a generic page should be displayed indicating that results are not found (user-maintained text)
- underneath this message there is an option to display the content spot PES_SEARCH_NO_RESULT
- Visual Guideline:

You searched for ‘**bla bla bla**’

We’re sorry but we could not find what you are looking for ...

Please try an alternate search, or browse our products using the menu above

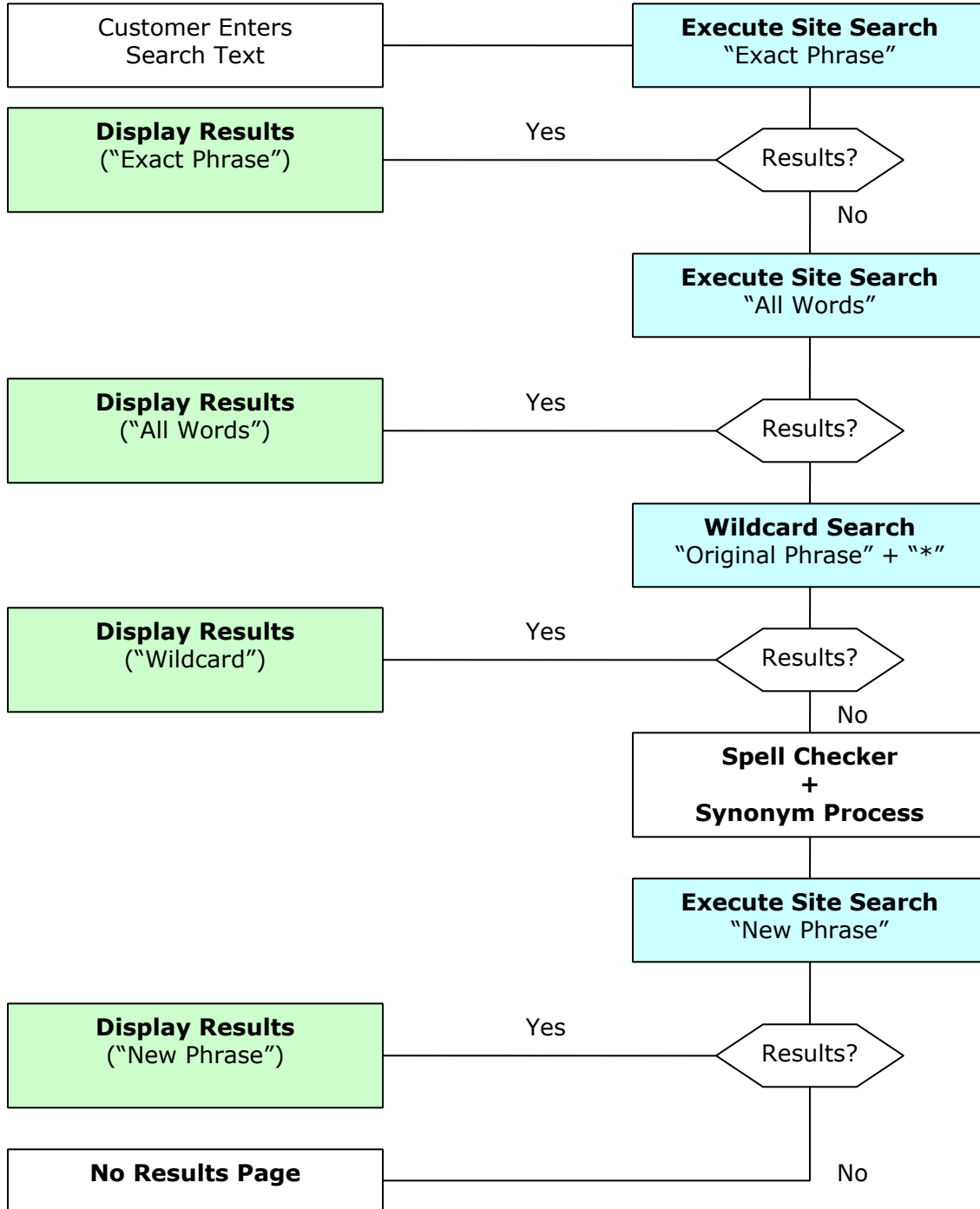
Page Content Spot:

Content Menu: “PAGE_END_SPOT” (MENU_CONTAINER)

Content ID: “PES_SEARCH_NO_RESULT”

3 Spell Checking and Synonyms

3.1 Processing Workflow



3.2 Technical Considerations:

- Spell Check:
 - Jazzy project hosted on SourceForge
 - See jazzy.sourceforge.net
- Synonyms:
 - Research OFBiz entity KEYWORD_THESAURUS
- Dictionary:
 - should be populated from relevant words for the client implementation
 - In other words, we would not want to have dictionary items for words that are completely irrelevant to the eCommerce site
 - This will help reduce the size of the dictionary and aid performance

3.3 Wildcard Search

- The “wildcard” processing is only executed if the “original phrase” returned no results
- The Wildcard is appended to the original phrase
 - Example: “dres” will become “dres*”
 - This would return results that include “dress”, “dresses” and “dressed”

3.4 Correction of Entered Phrase

- This processing is only executed if the above “original” and “wildcard” returns no results
- When correcting the original phrase using the Spell-Check, the original words are **REPLACED** with the correctly spelled word
 - Example: “red dres” will become “red dress”
- When expanding the original phrase using the Synonym process, the original words are **APPENDED** with the synonym
 - Example: “red dress” will become “red dress skirt”
- Since the Spell-Check is performed first it is possible that both processes will impact the search term
 - Example: “red dres” would ultimately become “red dress skirt”

3.5 Visual Guideline

You searched for ‘red dross’

We did not find any matches. Showing results for ‘red dress’ instead

4 Auto Complete

4.1 Indexing Considerations

- This solution should include a local (personalized) dictionary resource, specific for the implementation
 - Category and Product names, descriptions and features should be used to build the index
- Keywords should be generated from any of the following attributes, and should be configurable:
 - Product Category Name
 - Category Description
 - Product Name
 - Product Description
 - Product Internal Name
 - Product Features

4.2 Example

- Assume that Products are setup as follows:

Product P001	
Name:	Short Sleeve Silk Tunic
Description:	This wide neck silk tunic features vertical front and back seams and a shirttail hem. Fully lined. Cuffed, short dolman sleeves. Cami lining. 29' long, measured from the shoulder. Stretched silk georgette. Dry clean only.
Features:	Material: Silk Lining: Polyester
Product P002	
Name:	Bow Trench Coat
Description:	This twill trench blouse features a tie and ruffle trim at the collar. Fully lined. With a wide neck collar and five turn-lock closures at the front and pin-tucking at front and back. Welt hip pockets. Dry clean only.
Features:	Material: Cotton Lining: Polyester

- Auto Complete

Entered Text	Auto Complete Suggestions	Return Results
short	short sleeve silk tunic	P001
twill	twill trench blouse	P002
fully	fully lined	P001, P002
Wide neck	wide neck silk tunic wide neck collar	P001, P002

4.3 Research Resources

- JQuery
 - <http://jqueryui.com/demos/autocomplete/>

- From guitarcenter.com (view source)

```
* jQuery selectbox plugin
*
* Copyright (c) 2007 Sadri Sahraoui (brainfault.com)
* Licensed under the GPL license and MIT:
* http://www.opensource.org/licenses/GPL-license.php
* http://www.opensource.org/licenses/mit-license.php
*
* The code is inspired from Autocomplete plugin
(http://www.dyve.net/jquery/?autocomplete)
```

4.4 **Technical Notes**

- We would use a combination of SOLR spell checker and JQuery.
- When the SOLR index is initially built SOLR adds the values of field's product name and product description (this can be extended to include additional fields of the product catalog) to SOLR's list of spell check words.
- SOLR spell check now has a list of relevant words of the site.
- When a phrase is passed into the spell check API it returns a list of 5 suggestions (# of suggestions is configurable) plus a single collated phrase; the collated phrase is used when more than one word is passed into the API.
- SA each character is entered into the search text field JQuery makes an Ajax call to SOLR Spell Check returning the list of suggestions to display.
- The collated phrase is displayed first on the list only if the entered phrase contains a space.
- SOLR Spell Checker settings:
 - OnlyMorePopular
 - True: SOLR returns suggestions regardless if the phrase is spelled correctly or incorrectly
 - False: SOLR returns suggestions only if the phrase is misspelled
 - ExtendedResults
 - True: SOLR returns the suggestion and the frequency of use
 - False: SOLR returns just the suggestion
 - Collate – True/False – SOLR returns a collated phrase
 - Count
 - Number: The number of suggestions to return

5 Shopping List Search

5.1 Overview

- The Shopping List Search is a special function typically used for retailers where customers are expected to purchase many items within a shopping session (e.g. grocery)
- The function is offered as a single link next to the primary Site Search option
- Clicking on the Shopping List Search link will pass control to an entry screen that will prompt for multiple search phrases
- ALL phrases are then used to find product items and these are displayed in the PLP
- Customers then browse thru the relevant items and purchase directly from the PLP
- Each word or word phrase within the Shopping List Search are used to REPLACE regular PLP facets
- For a good example see www.waitrose.com and click on the "Jotter multi-search" link

5.2 Accessed the Shopping List Search

Enter search criteria ...	SEARCH
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Shopping List Search

5.3 Defining the Search Words or Phrases

Shopping List Search

Page Content Spot: Content Menu: "PAGE_TOP_SPOT" (MENU_CONTAINER) Content ID: "PTS_SHOP_LIST_SEARCH"
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To use the Shopping List Search simply enter in words or phrases into each of the entry boxes below. Each entry should represent a single product that you are trying to find. When you're done click on

Find Item:	<input type="text" value="e.g. Medium Sliced Bread"/>
Find Item:	<input type="text" value="e.g. Large Eggs"/>
Find Item:	<input type="text"/>
Find Item:	<input type="text"/>
Find Item:	<input type="text"/>
	<input type="button" value="SEARCH"/> <input type="button" value="ADD ROW"/>

- "ADD ROW" will insert a row at the end of the display

5.4 Search Processing Rules

- For each phrase entered above it is necessary to execute a SOLR search
- For example:
 - Entered data is:
 - Find Item1: Medium Sliced Bread
 - Find Item2: Large Eggs
 - SOLR Search#1
 - ("Medium" AND "Sliced" AND "Bread")
 - SOLR Search#2:
 - ("Large" AND "Eggs")
 - Results from both searches are appended together to create a PLP display
- Each phrase should be matched exactly, there is no need to apply the standard Site Search rule of searching for each individual word within a phrase
 - In other words, within the standard Site Search rules if a phrase ("Large" AND "Eggs") does not return results then an additional attempt is made for ("Large" OR "Eggs")
 - For the Shopping List the additional attempt is NOT required
- Spell Check
 - Spell check and auto-correction should be applied as per the standard rules
 - The corrected word or phrase should then be displayed as appropriate
- No Results
 - Standard search processing should indicate the no results are found

5.5 Displaying Results in the PLP

- Heading should display as "Shopping List Results"

5.6 Impact on Facets

- Standard Facets should be replaced completely by the details in this section
- UI Guideline:

Items:

<i>Medium Sliced Bread</i>	☒
<i>Large Eggs</i>	☒
<i>Banana</i>	☒
<i>Toothpaste</i>	☒

- Clicking on the icon will remove that specific item from the list and refresh the PLP

6 Future Phases

6.1 Search Static Page and other non-product centric content

- Search in Static Page content