Politecnico di Milano

PowerEnjoy

Software Engineering 2

Code Inspection

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1 Introduction

1.1 Revision History

Version	Date	Author(s)	Summary
1.0	05/02/2017	Giancarlo Colaci, Giulio De Pasquale, Francesco Rinaldi	Initial Release

2 Overview

Open For Business (OFBiz) is a suite of enterprise applications built on a common architecture using common data, logic and process components.

The functionality can be divided into the following distinct layers:

- **Presentation Layer:** Apache OFBiz uses the concept of "screens" to represent the Apache OFBiz pages. Each page is, normally, represented as a screen. A page in Apache OFBiz consists of components. When the page is rendered all the components are combined together as specified in the screen definition.
- **Business Layer:** the business, or application layer defines services provided to the user. The services can be of several types: Java methods, SOAP, simple services, workflow, etc. A service engine is responsible for invocation, transactions and security.
- **Data Layer:** the data layer is responsible for database access, storage and providing a common data interface to the Business layer. Data is accessed not in Object Oriented fashion but in a relational way. Each entity is provided to the business layer as a set of generic values. A generic value is not typed, so fields of an entity are accessed by the column name.

We were given three different classes: `ProductConfigItemContentWrapper`[1], `SeoTransform`[2] and `UrlRegexpTransform`[3].

Every class is pretty self-explanatory: `ProductConfigItemContentWrapper` gets a product content to display while both `SeoTransform` and `UrlRegexpTransform` rely on the Freemarker template engine to parse and edit `URIs`.

[1] `<apache-ofbiz>/applications/product/src/main/java/org/apache/ofbiz/product/config/ProductConfigItemContentWrapper.java`

[2] `<apache-ofbiz>/applications/product/src/main/java/org/apache/ofbiz/product/category/ftl/SeoTransform.java`

[3] `<apache-ofbiz>/applications/product/src/main/java/org/apache/ofbiz/product/category/ftl/UrlRegexpTransform.java`

2.1 Functional Roles

2.1.1 `ProductConfigItemContentWrapper`

This class implements the `ContentWrapper` interface and it mainly serves the purpose to pack various data starting from a `GenericValue`.

It offers two constructors which allow the developer to create the `ProductConfigItemContentWrapper` object from either a set of `LocalDispatcher`, `GenericValue`, `Locale`, `String` or a `GenericValue` and a `HttpServletRequest`.

2.1.2 `SeoTransform` and `UrlRegexpTransform`

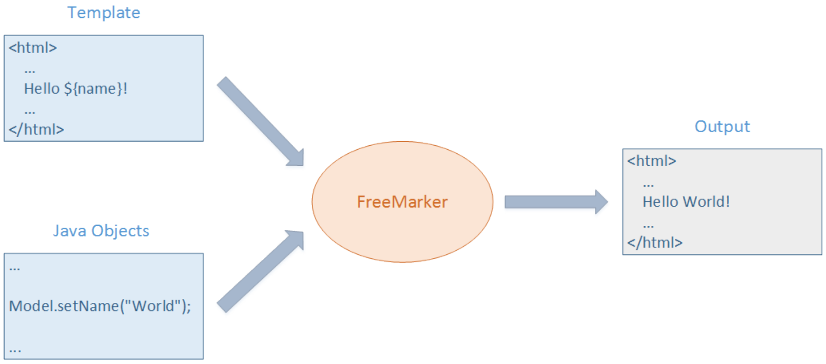

Figure 1: FreeMarker used as Web Template Engine

These two classes implement the `TemplateTransformModel` of the FreeMarker engine.

As of any template engine, FreeMarker is designed to combine one or more templates with a data model to produce one or more result documents.

In our case, the classes are almost identical but they are used for different data type parsing: `SeoTransform` is used for generic URLs while `UrlRegexpTransform` is used for Product URLs.

3 Issues

Ref	ProductConfigItemContentWrapper	SeoTransform	UrlRegexpTransform
1	None	L136: The method `seoUrl` should be called `getTransformedSeoUrl` in order to better explain the performed action	L138: The method `seoUrl` should be called `getTransformedSeoUrl` in order to better explain the performed action
2	None	None	None
3	None	None	None
4	None	None	None
5	None	L136: The method `seoUrl` should be called `getTransformedSeoUrl` because a method should always start with a verb	L138: The method `seoUrl` should be called `getTransformedSeoUrl` because a method should always start with a verb
6	None	None	None
7	None	None	None

Table 1: Naming Conventions

Ref	ProductConfigItemContentWrapper	SeoTransform	UrlRegexpTransform
8	L169-174: They split the `productConfigItemContent` definition into 6 different lines (adding 8 spaces at the beginning of each line) in order to obtain a more readable instruction	None	None
9	None	None	None

Table 2: Indention

Ref	ProductConfigItemContentWrapper	SeoTransform	UrlRegexpTransform
10	None	None	None
11	None	None	None

Table 3: Braces

Ref	ProductConfigItemContentWrapper	SeoTransform	UrlRegexpTransform
12	None	None	None
13	L55 (89), L57 (131 without comment, 181 with it), L68 (148), L72 (139), L82 (105), L89 (139), L92 (81), L93 (188), L105 (99), L110 (171), L111 (91), L112 (159), L113 (192), L116 (186), L117 (137), L120 (226), L122 (86), L123 (197), L130 (156), L133 (146), L142 (102), L143 (152), L146 (102), L147 (152), L152 (280), L153 (159), L156 (295), L166 (133), L169 (103), L170 (101), L176 (153 only comment), L179 (81), L180 (180), L184 (86), L185 (92), L188 (145), L191 (89)	L88 (98), L89 (102), L92 (85), L95 (99), L98 (107), L102 (100), L103 (136), L106 (82), L138 (114), L139 (88), L154 (104), L155 (109), L166 (82), L169 (102), L178 (103)	L88 (98), L89 (102), L92 (85), L95 (99), L98 (107), L102 (100), L103 (159), L106 (82), L140 (114), L141 (88), L156 (104), L157 (109), L168 (82), L171 (102), L180 (103), L191 (113) (only comment), L197 (81), L201 (141), L202 (88), L206 (86), L209 (102), L213 (88)
14	L57 (131 with comment, 181 without it), L68 (148), L72 (139), L89 (139), L93 (188), L110 (171), L112 (159), L113 (192), L116 (186), L117 (137), L120 (226), L123 (197), L130 (156), L133 (146), L143 (152), L147 (152), L152 (280), L153 (159), L156 (295), L166 (133),L176 (153 only comment), L180 (180), L188 (145)	L103 (136)	L103 (159), L201 (141)

Table 4: File Organization

Ref	ProductConfigItemContentWrapper	SeoTransform	UrlRegexpTransform
15	None	None	None
16	None	None	None
17	None	None	None

Table 5: Wrapping Lines

Ref	ProductConfigItemContentWrapper	SeoTransform	UrlRegexpTransform
18	Very few comments about class, interface, methods, and blocks of code	Very few comments about class, interface, methods, and blocks of code	Very few comments about class, interface, methods, and blocks of code
19	None	None	None

Table 6: Comments

Ref	`ProductConfigItemContentWrapper`	`SeoTransform`	`UrlRegexpTransform`
20	None	None	None
21	None	None	None
22	None	None	None
23	The *Javadoc* is totally missing	The *Javadoc* is (almost) totally missing	The *Javadoc* is (almost) totally missing

Table 7: Java Source Files

Ref	`ProductConfigItemContentWrapper`	`SeoTransform`	`UrlRegexpTransform`
24	None	None	None

Table 8: Package and Import Statements

Ref	`ProductConfigItemContentWrapper`	`SeoTransform`	`UrlRegexpTransform`
25	In order to respect the correct order the class implementation comment should follow the class statement	In order to respect the correct order the class implementation comment should follow the class statement	In order to respect the correct order the class implementation comment should follow the class statement
26	None	None	None
27	None	L71: The method `GetWriter` returns an encapsulated object, not previously defined	L71: The method `GetWriter` returns an encapsulated object, not previously defined

Table 9: Class and Interface Declarations

Ref	`ProductConfigItemContentWrapper`	`SeoTransform`	`UrlRegexpTransform`
28	None	None	None
29	None	None	None
30	None	None	None
31	None	None	None
32	None	None	None
33	L129: The declaration [4] should be put in the try-catch instruction before the if condition at line 126; L131: The declaration [5] should be put in the try-catch instruction before the if condition at line 126; L184: The declaration [6] should be put right after the method `getProductConfigItemContentAsText` definition at line 156; L185: The declaration [7] should be put right after the if condition at line 161;	L102: The declaration[8] should be put right after the `ServletContext ctx` declaration at line 89;	L102: The declaration [9] should be put right after the `ServletContext ctx` declaration at line 89;

Table 10: Initialization and Declarations

Ref	`ProductConfigItemContentWrapper`	`SeoTransform`	`UrlRegexpTransform`
34	None	None	None
35	None	None	None
36	None	None	None

Table 11: Method Calls

Ref	`ProductConfigItemContentWrapper`	`SeoTransform`	`UrlRegexpTransform`
37	None	None	None
38	None	None	None
39	None	None	None

Table 12: Arrays

Ref	`ProductConfigItemContentWrapper`	`SeoTransform`	`UrlRegexpTransform`
40	None	None	None

Table 13: Object Comparison

Ref	`ProductConfigItemContentWrapper`	`SeoTransform`	`UrlRegexpTransform`
41	None	None	None
42	Every error message just notifies the error without providing any guidance to solve the issue	Every error message just notifies the error without providing any guidance to solve the issue	Every error message just notifies the error without providing any guidance to solve the issue
43	None	None	None

Table 14: Output Format

Ref	`ProductConfigItemContentWrapper`	`SeoTransform`	`UrlRegexpTransform`
44	None	None	None
45	None	None	None
46	None	None	None
47	None	None	None
48	None	None	None
49	None	None	None
50	None	None	None
51	None (explicit casts)	None (explicit casts)	None (explicit casts)

Table 15: Computation, Comparisons and Assignments

Ref	`ProductConfigItemContentWrapper`	`SeoTransform`	`UrlRegexpTransform`

52	L141: Just a `GeneralException` is caught;
	L145: Just an `IOException` is caught;
	L151: Just `GeneralException` and `IOException` are caught;
	L156: Just `GeneralException` and `IOException` are caught;
	Not all the possible relevant exceptions are caught
		L77: Just an `IOException` is caught;
		L81: Just an `IOException` is caught;
		L121: Just an `Exception` is caught;
		Not all the possible relevant exceptions are caught
			L77: Just an `IOException` is caught;
			L81: Just an `IOException` is caught;
			L121: Just an `Exception` is caught;
			Not all the possible relevant exceptions are caught

53	For all the exceptions written above, the developers only provide a message without an appropriate action to solve the error	For all the exceptions written above, the developers only provide a message without an appropriate action to solve the error	For all the exceptions written above, the developers only provide a message without an appropriate action to solve the error

Table 16: Exceptions

Ref	`ProductConfigItemContentWrapper`	`SeoTransform`	`UrlRegexpTransform`
54	None	None	None
55	None	None	None
56	None	None	None

Table 17: Flow of Control

Ref	`ProductConfigItemContentWrapper`	`SeoTransform`	`UrlRegexpTransform`
57	None	None	None
58	None	None	None
59	None	None	None
60	None	None	None

Table 18: Files [No read and write from/to file]

4 Appendix

4.1 Tools used

We used the following tools to produce this document:

- **LaTex** as typesetting system to write this document
- **LyX** as editor

4.2 Hours of work

Date	Colaci	De Pasquale	Rinaldi
29/01/17	2	1	1
01/02/17	3	2	1
03/02/17	1	2	3
05/02/17	1	1	2