JOURNAL OF ENGINEERING annals OF FACULTY OF ENGINEERING HUNEDOARA
TOME VI (year 2008), FASCICULE 3, (ISSN 1584 – 2673)

WEB DYNPRO ABAP PRESENTATION THROUGH A MIND MAP

CRISTEA Ana Daniela

University Politehnica Timisoara, Faculty of Engineering Hunedoara

ABSTRACT:
In the large MVC Framework fammily, SAP bring two special products: Web Dynpro ABAP and Web Dynpro Java. This paper present throught a Mind Map the principal Elements need for the Web Dynpro ABAP study. As learning technique Mind Map it is oane of the succesful and the father of Mind Map it is consideret Tony Buzan. A Mind Map it is a diagram used to represented words or others items linked to a central key word, in ours case Web Dynpro ABAP. With Mind Map help we are structurated and classified Web Dynpro important ideas as an aid in study.

KEYWORDS:
Web Dynpro ABAP, framework, Multilanguage, Mind Map, ABAP programming, components

1. INTRODUCTION

Web Dynpro ABAP it is the SAP[1] technology to create web business application, baset on MVC design pattern. The programming language use it is ABAP (Advanced Business Application Programming) and the development environment need for make this applications ist Web Dynpro Explorer, full integrate in ABAP Workbeanch.

In the WD4A framework, the user interface development is implemented in an abstraction layer that keeps the client technology away from the UI developer, or it encapsulates it [2].

To make a clear image about the main aspect of what Web Dynpro ABAP offer, we have make a Mind Map where each topic reprezent a important aspect of this technology. For that we are begin with the ABAP data type and ABAP Dictionary – needed for the codind part, until to principal UI Elements, messages handling, Hook methods, View navigation and until usage and componentization. This study it was make to a SAP NetWeaver platform release 7.0 level 15.

As learning technique Mind Map it is oane of the succesful and the father of Mind Map it is consideret Tony Buzan. A Mind Map it is a diagram used to represented words or others items linked to a central key word, in ours case Web Dynpro ABAP. With Mind Map help we are structurated and classified Web Dynpro important ideas as an aid in study.

2. MIND MAP – WEB DYNPRO ABAP PRESENTATION

In fig 1 it is presented the Mind Map that may us facilitate the understand of the main principals of Web Dynpro ABAP, Mind Map that contein all the important Elements that have to be discuss for the fully understanding of WD ABAP and that are very importand for learning this technology.

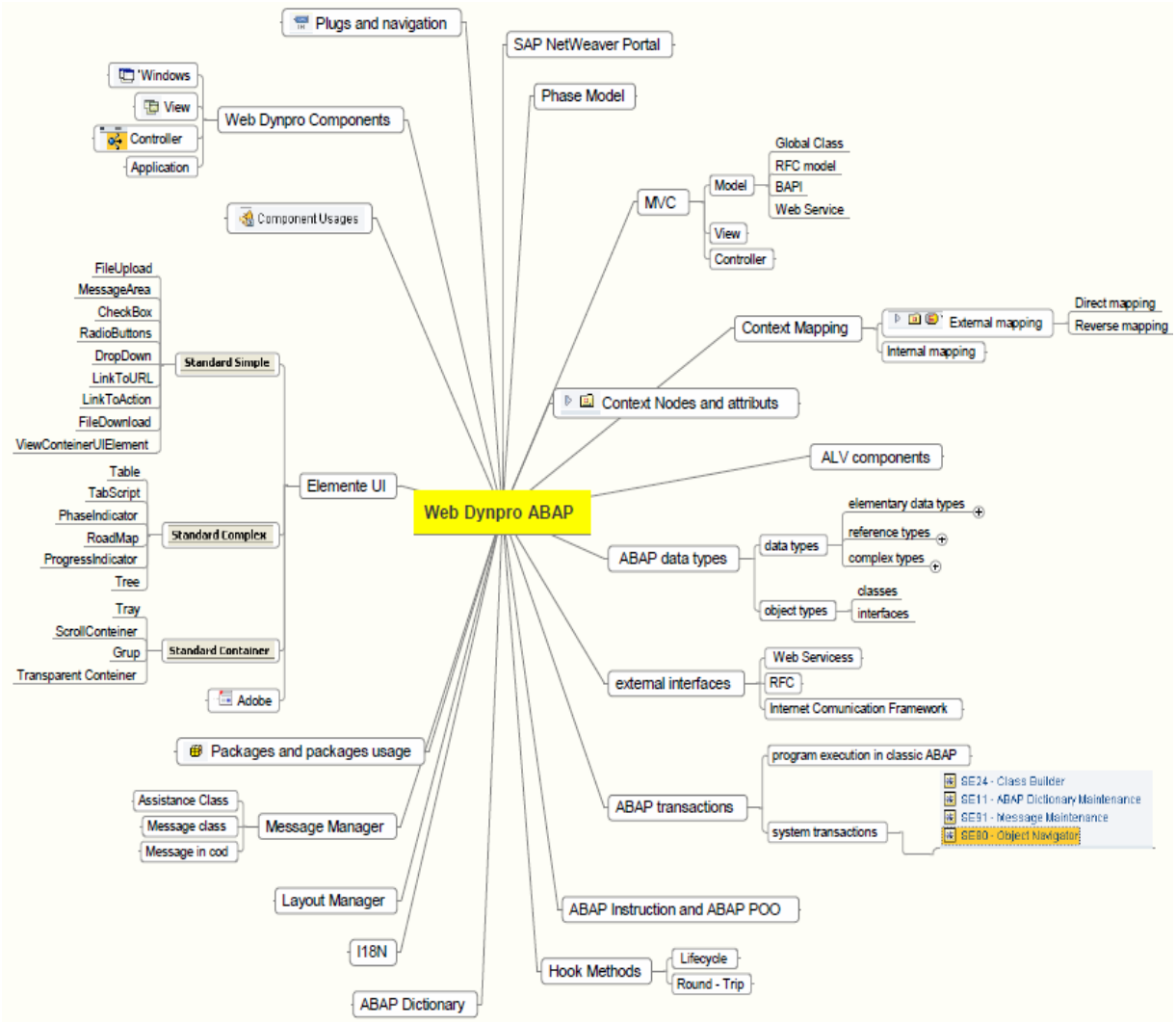


Fig 1. Mind Map Web Dynpro ABAP

3. SEVERAL WEB DYNPRO ABAP TOPICS PRESENTATION

3.1 Web Dynpro Components

A Web Dynpro component kann have many Elements fig 2:

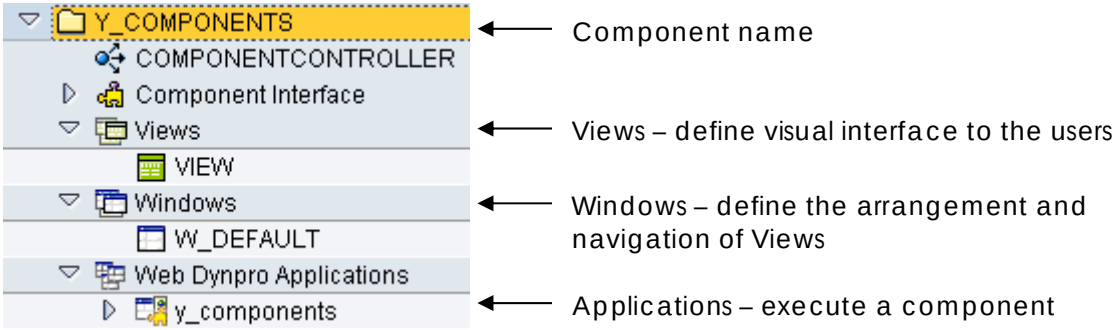


Fig. 2 Web Dynpro Components

Additional of the components presented we may have others Elements too, for example MIME, Component usages, Component Configurations discussed follow.

3.2. Component Usages

In real world the Web business applications are make from several components. Fig. 3 present a usage example with a reverse mapping.

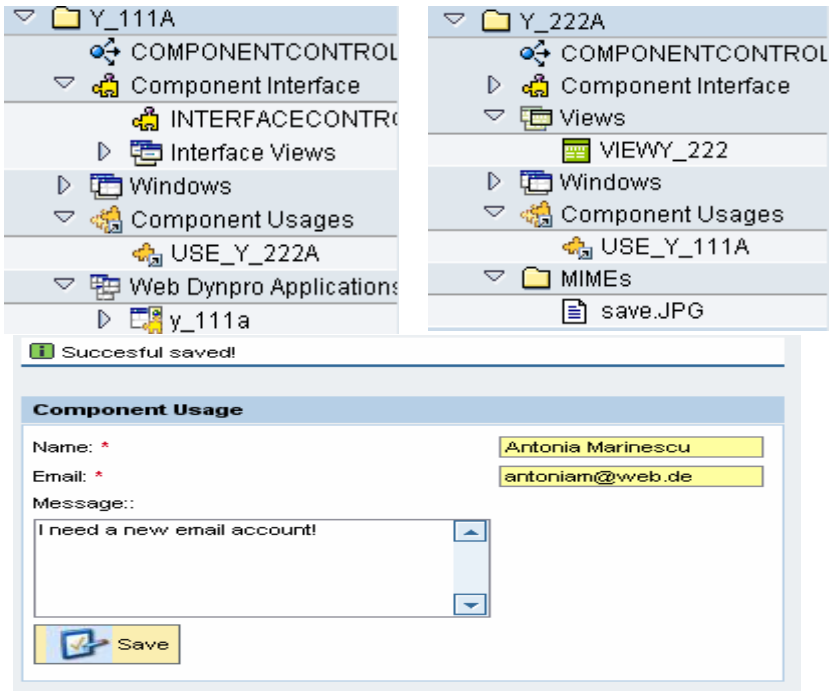


Fig. 3 Component usages

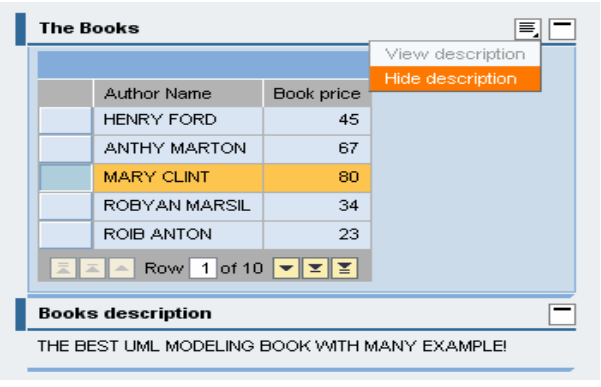
To make application that are accordingly with the MVC (Model View Controller) principles, a application it is build from more as just a component and after that we make usage between this.

The component y_111A don't have a View, the user interface it is implemented in the component y_222A. This component have just node and attributes and the method that verify the user inputs and messages handler with help of T100.

The component y_222A use the y_111A component to have acces to the context node and to call the method from componentcontroller of y_111A.

3.3. Hook Methods

Hook Methods represented a special methods type that make the interface between Framework and the application that we build. This methods are in different controllers: view controller, componentcontroller, window controller, custom controller, are in number of 7 and we can classify in Lifecycle Hook Methods and Round-Trip Hook Methods. Not in every controller we can find the same Hook methods. wddoinit() and wddoexit() are the only Hook methods that we are find in all controllers.



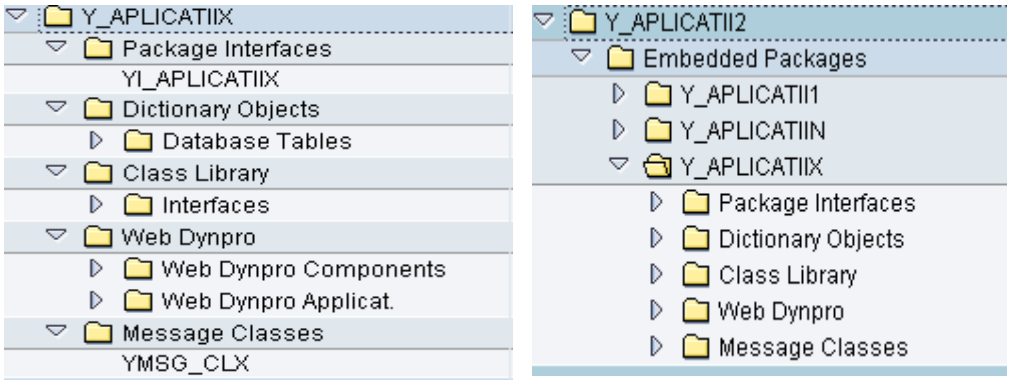

```
METHOD wddoinit .
  DATA lr_tray_node TYPE REF TO if_wd_
context_node.
  DATA ls_tray_data TYPE if_view=>elem
ent_dinamic.
  lr_tray_node = wd_context-
>get_child_node( 'DINAMIC' ).
  ls_tray_data-enabled = abap_true.
  ls_tray_data-enabled1 = abap_false.
  ls_tray_data-
visible = cl_wd_tray=>e_visible-none.
  lr_tray_node-
>set_static_attributes( ls_tray_data).
ENDMETHOD.
```

Fig. 4 wddoinit() Hook Method

The example from Fig. 4 presented a usage example of the method wddoinit() where we make the attributs initialisation. For populating the context attributes of context node Elements are used supply function methods or we can use Hook method wddoinit() too.

3.4 Packages and Packages usage

To structurate all the Elements that belong to a application, we use a package but every package starting with "$" character cannot be later transported. Fig. 5 present a "Not a Main Package" wit the name Y_APLICATIIX together with the included development objects and fig. 5 b present a main package that contain others packages but cannot contain development objects.



a) b)

Fig. 5 Packages and packages usage

When we whant from a package to use the development objects from another package we have to make a usage to a Package Interface.

3.5. I18N

I18N derive from the word Internationalization, the possibility to create Web Dynpro Multilanguage applications. From the tools that this platform offer we mention OTR (Online Text Repository) and the assistance class cl_wd_component_assistance.

Fig. 6 presented a example of using assistance class for making the I18N messages and OTR texts existent in the system for the static texts. The main goal it is to get at end a Multilanguage application.

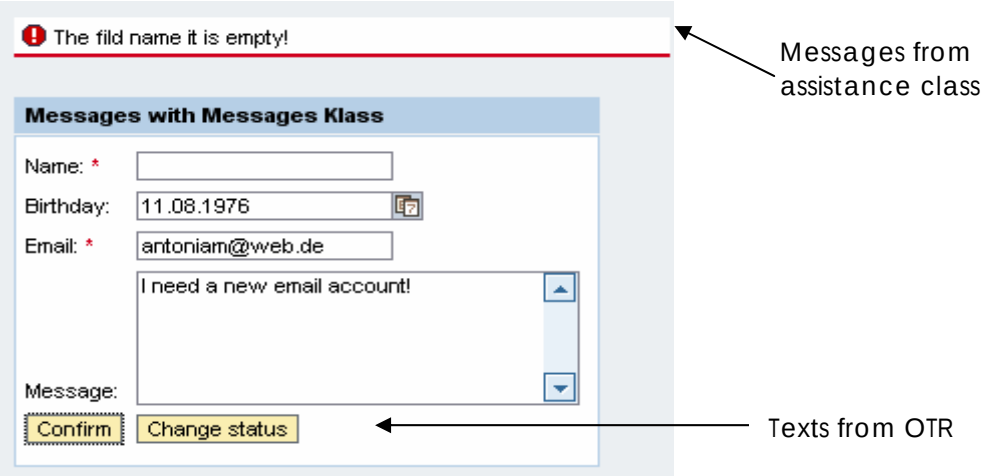


Fig. 6 Make of I18N aplication

When we change the logon language in de, the message and the OTR text assigned to the propertys of Buttons are show this time with the german translation. The others labels and captations that are ordinary static texts are not translate, fig. 7.

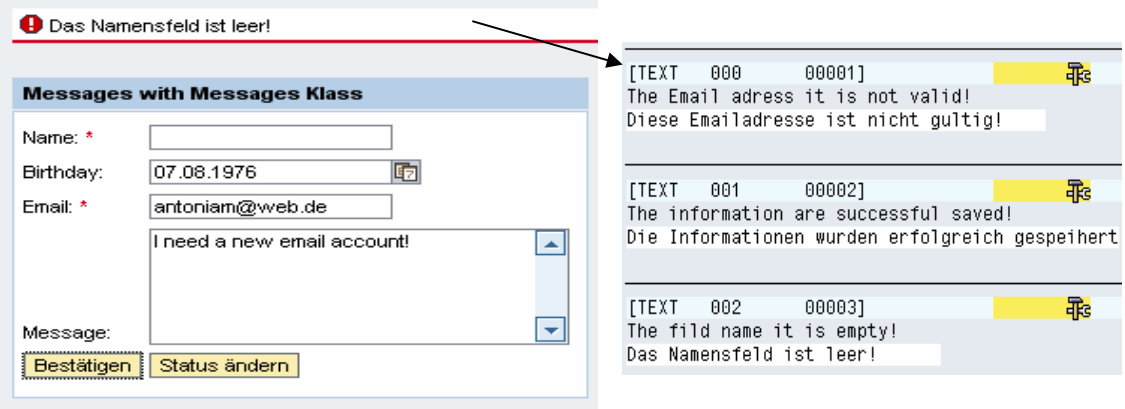


Fig. 7 Internationalization

3.6. UI Elements

Usual UI Elements are ojects with which the user interacts, such as RoadMap, Button, PhaseIndicator, GeoMap. Web dynpro ABAP are availabe many non-interactive UI Elements too such as HorizontalGutters, Legends, Labels, InvisibleElements. We can use the UI Elements with easy drag and drop option, each UI Element have a large pallet of properties that help us to make a dynamic programming and a static programming. In fig. 8 we present a Tree UI Element together with a Group UI Element.

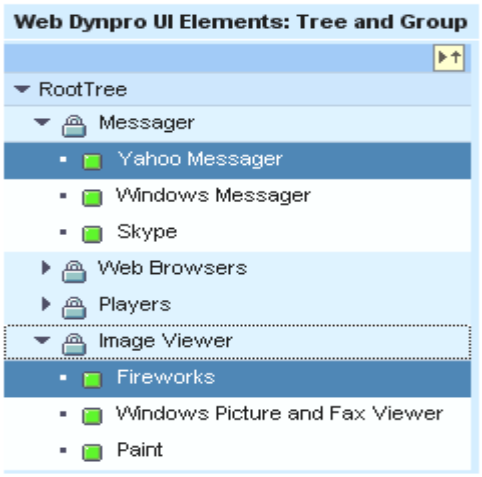


Fig. 8 Example of Web Dynpro UI Elements

The whay how the UI Elements are arranged in a View depend of the Layout UI Element property and the Layout property of the conteiner where this element it is integrate. In fig. 1 are presented just a little part of the UI Elements that this platform offer us.

3.7. ABAP Dictionary

The ABAP Dictionary permits a central description of all the data used in the system without redundancies and it is completely integrated in the ABAP Workbench (SE11). The ABAP Dictionary contains inclusive the information displayed with the F1 and F4 help for a field from Web Dynpro component or from a screen.

Fig. 9 present a Web Dynpro application where we use ABAP Dictionary repository objects: Search Help, Domain and a Table with data types specific our application.

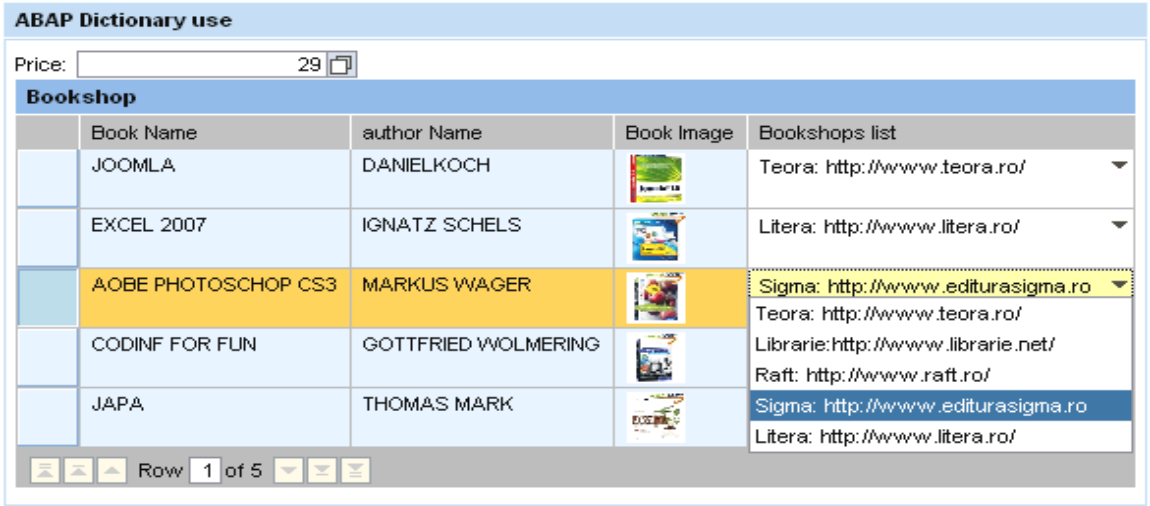


Fig. 9 ABAP Dictionary example

4. CONCLUSIONS

Web Dynpro it is a framework that facilitates the development of quickly reusable, multilanguage web business applications. This Mind Map structurate the important items and ideas that have a huge importance for understanding of this technology, every topic represent a chapter from the "big book" of Web Dynpro ABAP.

BIBLIOGRAPHY

[1] https://www.sdn.sap.com/irj/sdn/index
[2] Ulli Hoffman, Web Dynpro for ABAP, Galileo Press 2006