

SEVENTH FRAMEWORK PROGRAMME
NMP-2007-3.1-2
New added-value user-centered products and product services



SERVICE Oriented Intelligent Value Adding nEtwork for
Clothing-SMEs embarking in Mass-Customisation



D4.4 SERVIVE Co-design and Style-Advise final prototype report

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LIST OF TERMS AND ABBREVIATIONS

Abbreviation	Definition
CRM	Customer Relationship Management
HTML	Hyper Text Markup Language
MD	Matteo Dosso
PServer	Personalisation server
SNI	System Network Integration
SPL	SERVIVE Transaction Platform
SPO	SERVIVE Portal

1 Introduction

The purpose of this report is to present the prototype Deliverable *D4.4 SERVIVE Co-design & Style-Advise final prototype* which has been implemented in the framework of *WP4 Community Based Web Co-Design/Configuration* of the SERVIVE project.

This prototype includes two separate developments, first being the implementation of the Product Specific Style Advisor and also the final prototype of the web based Product Configurator, both of them integrated at SERVIVE Transaction Platform (SPL).

This document describes briefly these implementations in terms of development steps, installation processes, presentation of main interfaces and also presentation of key use cases, for each of the aforementioned components of the prototype.

2 Product Specific Style Advisor

In addition to the provision of Generic Style Advises through the Wizard integrated at SERVIVE Portal (SPO), the members of SERVIVE Style Community are able to receive Style Advise related to a selected garment, offered by the SERVIVE pilots from specific product catalogues, through the Product Specific Style Advisor which is implemented at SPL, as stated in Deliverable *D4.3 SERVIVE Co-design & Style-Advise shell first prototype report*.

As of this, the SERVIVE transaction platform offers "match-to-order" services, as it is called in the context of standard apparel retail style advice. This means the Product Specific Style Advisor is used to identify the best possible existing product customisation in an existing assortment according to the preferences of a consumer.

This specific case of style advice is used as support tool in the configuration process, taking place at SPL. The basic functionality of the detailed style advice is to match customer information with various basic styles of the product and the available customisation options.

The Product Specific Style Advisor is also a *sales support tool* helping the consumer and/or the sales assistant in selecting the right product with the right features from a wide range of product catalogues.

The architecture we envisage for the product Specific Style advice is presented below.

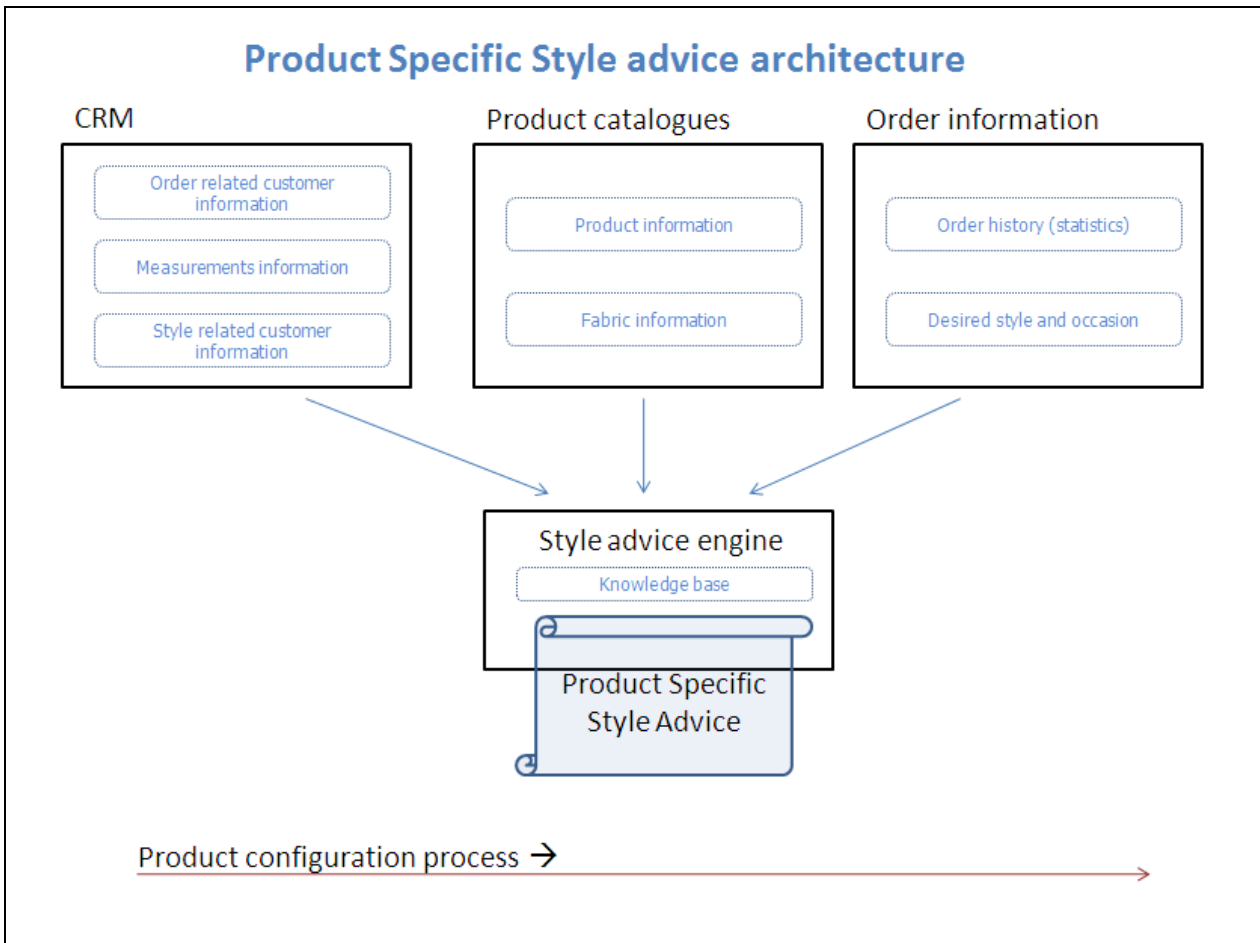


Figure 1: Product Specific Style Advice architecture

The current Product Specific Style advisor prototype is implemented as the product configuration level. The knowledge that is embedded in the knowledge base comes from Matteo Dosso pilot and is offering option selection advice for one of the products offered by this manufacturer: the 3 piece suit – Business Jacket + Trousers + Skirt for women.

The basic rules are presented below and are used for prototype testing:

Rules for jacket:








JACKET								
Style advice	1. Normal figure	2. Broad top	at 3. Broad bottom	at 4. 'Hourglass' curvy	5. Oval i.e. full around middle	6. Narrow straight	and 7. Broad atypical	and straight
								
style	single breasted	single breasted princess seam	double breasted	single breasted	single breasted princess seam	double breasted	single breasted princess seam	
total length	half hip	half hip	over hip	over hip	before hip	before hip	over hip	
number of buttons	4	2	4	4	2	1	4	
lapel	peak	peak	butterfly	pointed	notch square	butterfly	notch round	
hem	straight	english	feminine round	round	feminine round	english	round	
pocket	yes	no	yes	yes	no	yes	yes	
shoulder pad	thin	thin	thick	thin	thick	thin	thick	
back vent	middle	2 side	middle	middle	middle	2 side	notch round	

Figure 2: Product Specific Style Advice test rules for MD Jacket

Rules for trousers:








TROUSER								
Style advice	1. Normal figure	2. Broad top	at 3. Broad bottom	at 4. 'Hourglass' curvy	5. Oval i.e. full around middle	6. Narrow straight	and 7. Broad atypical	and straight
								
seam	classic	turn up	vent	vent	classic	turn up	vent	
front pocket	no	yes	no	no	no	yes	no	
back pocket	no	yes	no	no	yes	yes	no	

Figure 3: Product Specific Style Advice test rules for MD Trouser

Rules for skirt:








SKIRT								
Style advice	1. Normal figure	2. Broad top	at 3. Broad bottom	at 4. 'Hourglass' curvy	5. Oval i.e. full around middle	6. Narrow straight	and 7. Broad atypical	and straight
								
	①	②	③	④	⑤	⑥	⑦	
total length	half knee	over knee	before knee	before knee	before knee	over knee	before knee	
waistband	straight	straight	tailored	tailored	tailored	straight	tailored	
vent	side	side	back	back	back	side	back	

Figure 4: Product Specific Style Advice test rules for MD Skirt

As can be seen in the above mentioned rules, for each of the available Body morphotypes, certain options are more suitable to be selected than others.

The SPL Product Specific Style Advice implements the above rules. The functionality is embedded into the product configuration page. This functionality is also made available in the product configurator that is made available in SPO, based on SNI and SPO-SPL integration.

Currently, the rules are stored in SPL, in a custom database format that can be summarised as following:

- A table of available morphotypes;
- A table with options that should be selected for a certain combination of product and morphotype. This information can be enriched also with some 3rd level values (3rd level value means a certain value attached to an option, as for example a certain fabric for a lining);

The Product Specific Style Advice functionality is made available in the product configuration page by allowing the user to select from a list of morphotypes. Once a certain morphotype is selected, the options related to that morphotype and the current product under configuration gets automatically selected. If any 3rd level value is specified in some rules, this value is added to the selected option.

The following picture presents the Product Specific Style advice functionality:

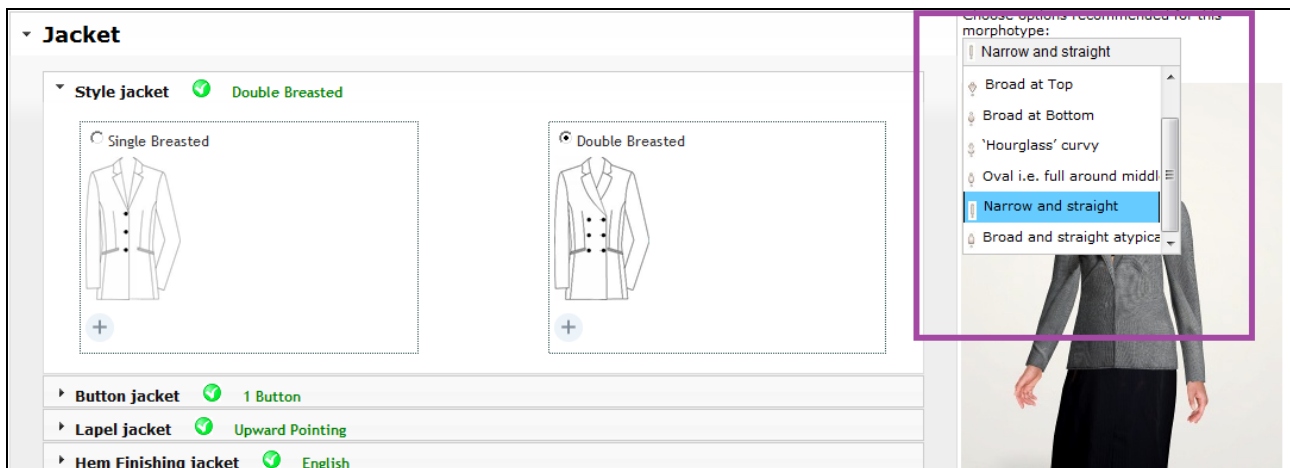


Figure 5: Product Specific Style Advice body type selection

For the short term future, the following next steps are envisaged and/or analysed:

- Implicit selection of the morphotype when this information is transmitted in the background through SNI from SPO;
- The use of PServer as product style advice engine
- Grouping the rules not only on a morphotype basis but also based on other grouping criteria (e.g.: occasion)
- Add not only direct option based advice but also some broader product specific style advice in the form of text based advice directly linked to a certain product (e.g. Mix & Match info);

3 Product Configuration final prototype

The final prototype of the Product Configurator provides the SPL user the ability to customize the selected product and review his/her selection in real time. This results in “true 3D” representation of the consumer’s body and selected customized garment, as stated in Deliverable *D4.3 SERVIVE Co-design & Style-Advise shell first prototype report*.

Finally, the product configurator is connected with other systems of the SERVIVE pilots (like inventory of materials, accounting, production scheduling etc.). This development is referring to work performed in WP5 “*Functional and technical design specifications for SNI*” and the related prototypes (First & Final SNI Prototypes) are presented at Del5.3 & Del5.4 accordingly.

The latest version of SPL product configurator takes the configuration process one step further, benefiting not only from the functionality of Style advice and SNI but also from other SPL development work, based on the most modern web development technologies available today.

The final version of the product configurator is integrated in SPO, with the proper look and feel and benefiting from the SPO-SPL integration services provided by SERVIVE SNI.

The new version of the product configurator shows the options grouped in 2 levels:

- Product
- Product Option Type

The interface is based on accordion style user controls. There is one level of accordions for each of the option grouping levels mentioned above. Below is an image of the latest version of the product configurator:

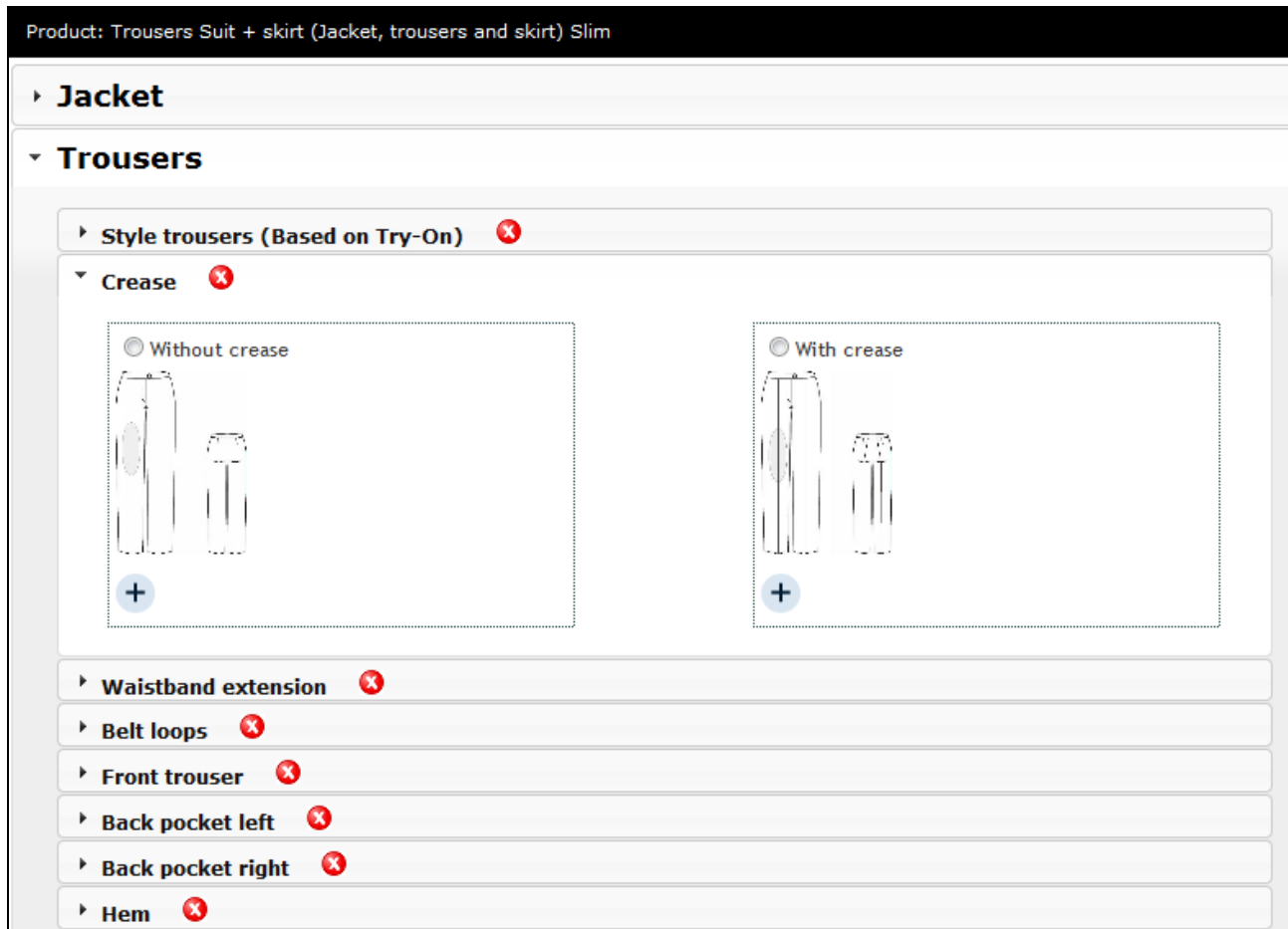


Figure 6: SPL/SPO product configurator structure

The use of accordion style interface makes the configuration process easier and more attractive and efficient.

The order checking functionality is also improved from interface point of view, making the task of user easier when it comes to identifying what sections are still to be filled (for example in the case of required option types).

When the page is initialised, all the sections that require user input are decorated with the red icon. When one section is properly filled, then the green icon appears at the section's header level, as can be seen in the image presented below:

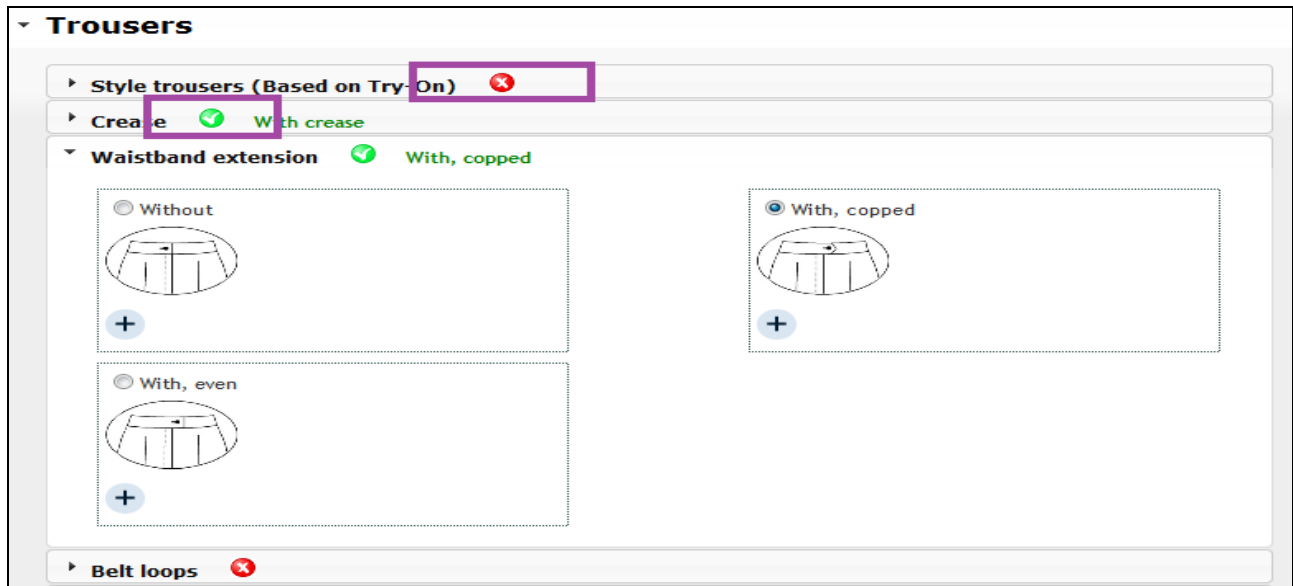


Figure 7: Product configurator status icons

Another feature that helps the user to easily identify the configuration status is the text in the section’s header presenting the current selection in that product option group. Not only the name of the options is presented but also the possible 3rd level value (extra value that is attached to an option selection; e.g. monogram text when the user chooses to have a monogram on the garment). The section’s header automatically shows the red icon. Examples of section’s headers mentioned above are in the below images:

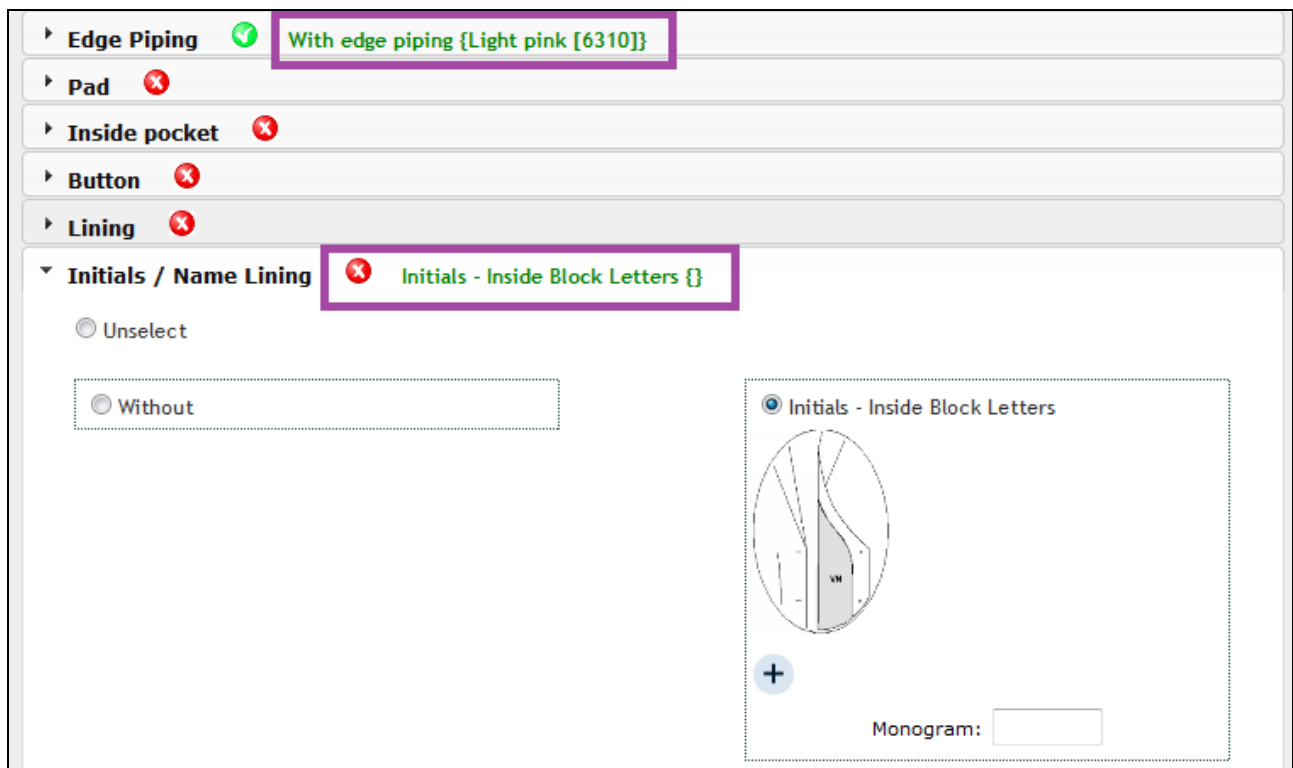


Figure 8: SPL/SPO product configurator- selection in header

As can be seen above, the first selection and the according 3rd level value are presented next to the green icon (With edge piping {Light pink [6310]}). The second situation is in the Initials section, where even if the initial status was green (this section does not require a section), the selection of

an initials option without entering the related 3rd level value (Monogram), puts the whole section in a red status.

There are 2 main types of option type sections:

- Sections that require an option to be selected. This type of sections have a red icon showing in the header when the configuration page is initialised for the first time for a product;
- Sections that do not require an option to be selected. No icon is presented in the header when the configuration page is initialised for the first time for a product;

The options in each section are presented in a 2 column format. There are several types of sections/options, as following:

- Options in required sections: which are shown as HTML radio buttons so that only one can be selected at a time;
- Options in sections where 0 or 1 options can be selected: these options are also shown as HTML radio buttons, with an extra radio button that acts like a “unselect all” option.
- Options in sections where 0 or more options can be selected: these options are shown as checkboxes;

Each option is presented in a dashed border cell. The default information for each option is:

- Radio button or checkbox to select/unselect that option;
- The picture (if available); when the picture is clicked, the respective option gets selected;
- A button that once clicked opens in a popup the image attached to the option, so that the user can see it in a bigger size;
- 3rd level option (if required for that option);

There are currently 3 types of 3rd level options input:

- As a text box: used for text based values (ex: monogram)
- As a dropdown: used for selecting from short lists of allowed values (ex: choose a certain colour from a predefined list)
- As a popup with a grid: used currently for options that require to select a certain fabric from the fabric list made available by the product’s manufacturer;

The following images show the functionality, the various types of product option sections, product options and 3rd level value input fields, as presented in the above paragraphs:

Required and not required sections:

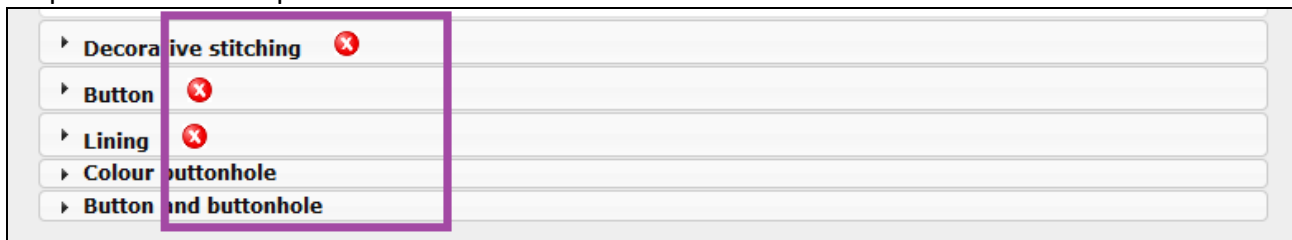


Figure 9: SPL/SPO product configurator required and not required section headers

Radio button option with text based 3rd level value:

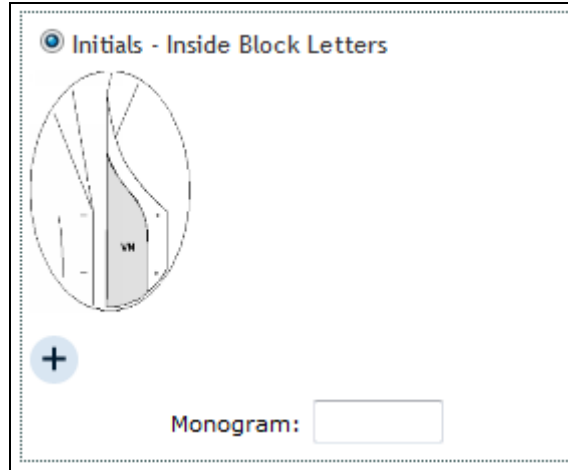


Figure 10: SPL/SPO product configurator - radio button option with 3rd level value

Section with 0 or 1 options to be selected:

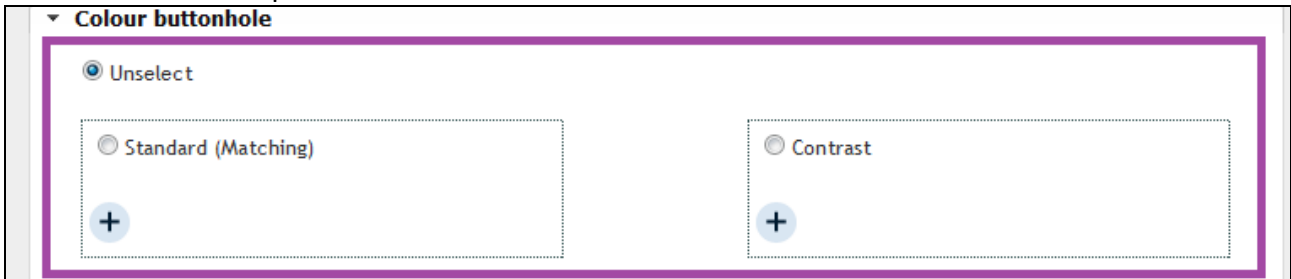


Figure 11: SPL/SPO product configurator – section with 0 or 1 options to select

Dropdown type 3rd level value selection:

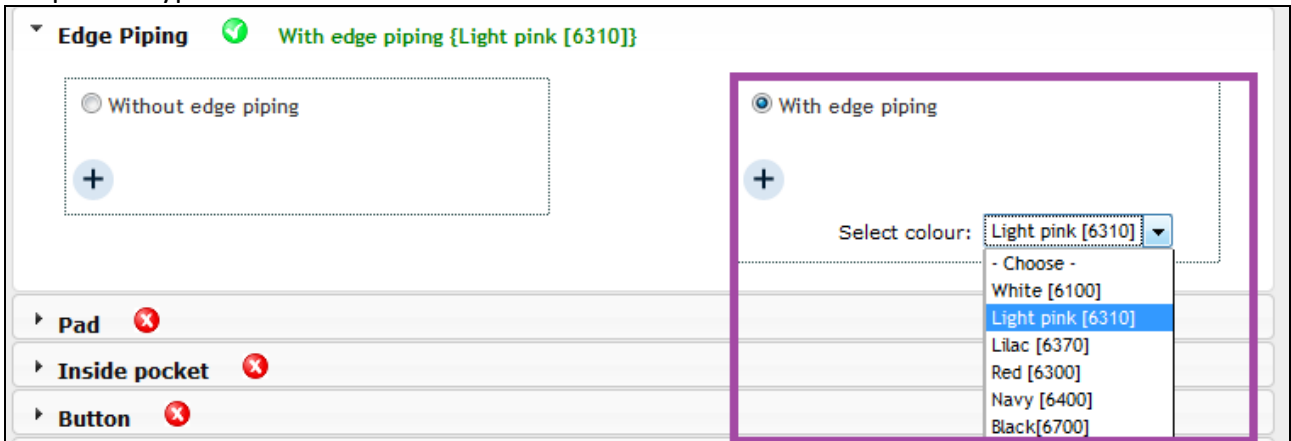


Figure 12: SPL/SPO product configurator – dropdown 3rd level value for option

One other very important feature of the configuration page is the availability of 2.5 D product visualization. This feature is made available through SNI, from the SPL product imaging rendering service. The best available visualization of what was configured is shown at the right side of the main product configuration user control. The configured garments are shown on a human body, with a morphotype and body features as selected by the user or derived from the customer measurements stored in SPO and SPL. The below image presents the visualization service at the product configuration level:

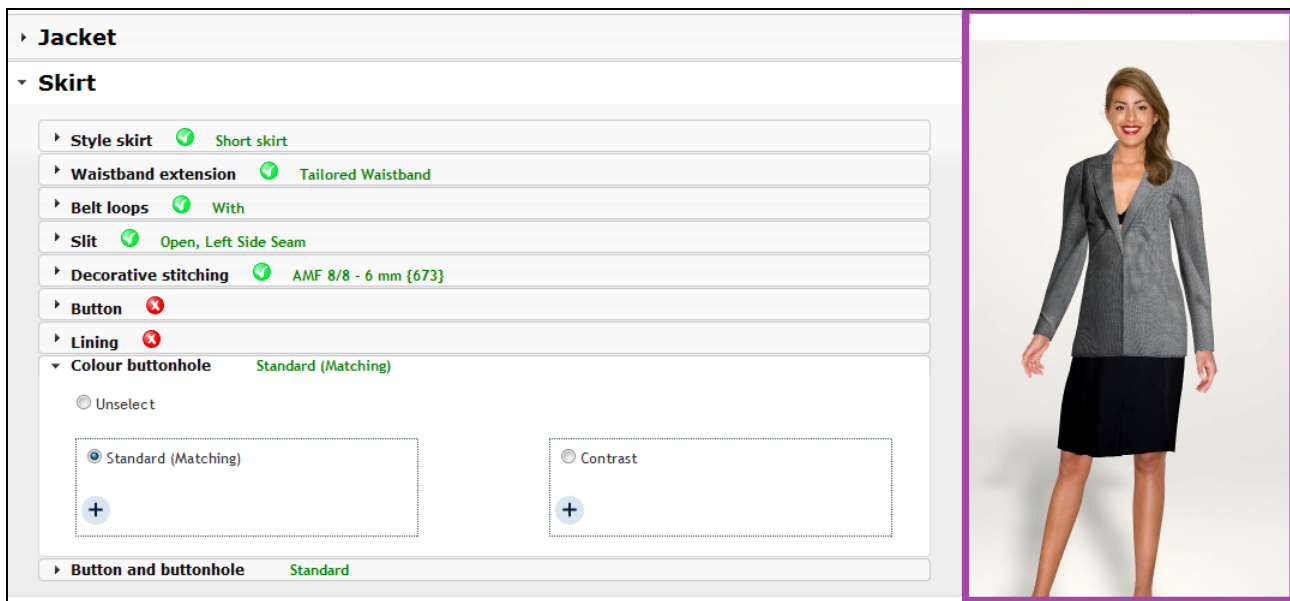


Figure 13: SPL/SPO product configurator – configuration visualization

At the end of the configuration process, several checks are performed, as for example:

- Check if all required sections have at least one option selected;
- Check if 3rd level value is selected of the selected option requires such a value;
- Other custom checks.