

The logo for Scalabium, featuring the word "Scalabium" in a bold, italicized, blue font.A horizontal bar with a gradient from blue to green, containing the tagline "Scalable solutions that grow with you..." in a white, sans-serif font.

Introduction

SMReport Designer is a multi-language report designer engine for Delphi/C++Builder. This is a native VCL and does not require any additional files (DLL, OCX etc) by delivery to the end-users. This suite contains the components for visual construction of any report form, generation of the report on the basis of the this form and data source, and preview and/or print of generated report.

SMReport Designer is a commercial product and is distributed on shareware conditions. You may obtain latest version and news/announces at Scalabium Software site:

<http://www.scalabium.com>

All registered developers can request a technical support, receive upgrades and changes with bug fixing.

Note that technical support for end-users which use your developed applications (where SMReport is used) is not provided on standard basis. If you need it, please request a technical support at sales@scalabium.com

Basic features

SMReport Designer is a powerful tool for the creation of reports, lists, labels, forms...

- friendly interface
- run-time designer
- drag'n'drop functionality
- customized preview dialog with zooming and magnifier possibility
- report wizards
- wide report designing
- conditional highlighting of variables, fields
- unlimited data grouping
- on-fly calculated variables (sum/count/average etc)
- user variables for custom formulas
- stretching feature
- restrictions for end-users
- report export into different formats (HTML, XML, PDF, CSV, Text, MS Excel, RTF and others)
- opened interfaces allow to add new printable controls (flow charts, for example) and export filters
- multilingual interface

Custom report forms

Developer and/or end-user could create any required report form:

Report and Lists

You can create any report with data grouping, calculations, shapes, images, charts, barcodes etc

Labels

You can print address or product labels in a few seconds. Different barcode kinds (postal, for example) and graphics can be printed without any limitations

Forms

You can create forms of any kind: tax forms, cheques or any other officials...

Grids/Tables

You can create a grid/table with data. Horizontal or vertical grid lines are printed.

Master/Detail

You can generate reports using Master/Detail relation. Also unlimited data grouping is possible too.

Menus/Covers

You can print any restaurant's menu or CD cover with extended graphics, automatic frames, backgrounds/watermarks

You may freely design the layout of report - size, distance, spaces, horizontal/vertical alignment, transparency etc.

Wide reports could be designed, previewed and printed with automatic sheet/bar creation (without any additional programming or designing).

System & user variables

You can use variables as source for text printing, control highlighting, group expressions etc. There you can define any own complex formula or simple text description and use it in the entire project.

You can calculate subtotals (per group, particular page or entire report) or use as condition for highlight (to print in red font any debit amounts, for example).

In expression you can use both system and custom variables in any combination with operators.

Any complex custom formula can be saved as user variable and can be used repeatedly in any part of report.

Expression Builder provide user-friendly way of easy and fast creation.

More than 50 predefined functions are divided on 6 categories. Short description and parameter list are available for every function.

Any your custom variable can be provided with short hint with variable description.

Hierarchical object list

In SMReport Explorer you can see hierarchical structure of report (bands and controls), dataset structure with field list, system and custom variables.

Using drag'n'drop you can re-order controls or create a new control - just drop a desired field or variable onto your report band in designer. Automatically will be created a new control and any required information will be filled from field/variable parameters.

Database independence

You can use any data as source for your report form. Developer have a full control with variables, fields and other data which you would like to make available in the report designer. No external database connections - you will use current resultset as report source.

BDE, ADO, dbExpress, DAO, Direct Oracle Access, DBISAM, IBX, Apollo, Advantage, Flash Filer, and any other TDataset-compatible component could be used with our report engine.

Contact to author

Don't hesitate to contact us for further information, we are glad to be at your disposal.

Thanks for your interest in our products and web site. Your experience with it is very important to us. Please take a moment to let us know what you like and don't like about it.

Here is how to contact us for tech support or to give us feedback on our products or web site.

You may contact us with any questions and propositions. Please do not hesitate to contact me if there is any additional information.

Mike Shkolnik, Scalabium Software

e-mail: mshkolnik@scalabium.com

WEB: <http://www.scalabium.com>

Outsourcing service

We provide software development (custom components, applications and tools), database engineering and consulting by remote contracts. If you're interested in such kind of cooperation, contact us. Our team is opened for discussion.

Engine description

SMReport Designer contains three logical main parts:

- Visual Report Designer
- non-visual Report Generation on the basis of the report form and data source for it
- also visual Preview form and/or printing/exporting process of the generated report.

Visual Report Designer

This component is an one of the main parts for SMReport Designer and implement a visual development of the report forms both in design-time (level of the developer/programmer), and in run-time (level of the end user).

Using this component you have a visual access to all functionalities of the report generator.

You may specify a large set of options in the edited report ("Parameters of the report" button on the toolbar), and also to add/modify/delete any number of controls on any report band (drag a component on the components toolbar and drop it on a desirable place of the band).

Right mouse button provide the context-sensitive popup-menu for a selected control or a report band.

On double click on a control or band you will open a dialog where can may change any settings for selected control.

Also component are realized the main possibilities given by anyone designer:

- controls resizing
- drag'n'drop for controls on the report bands
- control selection (including multi-select with SHIFT/CTRL keys on keyboard)
- cut/copy/paste and delete for selected controls
- selected controls can be moved up ot down (SendToBack & BringToFront)
- selected controls can be aligned in one mouse click
- etc

Non-visual report generation

This component is only logical section in SMReport Designer and allocated separately in the description only to explain the functional sequence of report generation.

This component is a connection between the process of visual designing of the report form in a designing mode and process of visual report previewing or printing.

Certainly there should be the some intellectual unit, which on the basis of the drawn report and data source for this report on defined rules will generate output result, which was necessary to the end user. Here this unit also is of report generation component.

Before each process of report visualization (the call of printing or preview of the report) is automatically executed a corresponding method for report generation.

PS: the report generation contain some snapshot of data on a moment of generation and certainly with data source changes in generated report-result does not vary. For report refresh you must re-generate it once again.

Report Preview/Print

This component represents an one of SMReport Designer main parts for visual preview of the generated report form.

This component allows to display the report with any scale of preview, to navigate thru pages in the vertical and horizontal (only for multi-sheets reports) directions

End-user may change a zoom:

- to increase of a preview scale: press a left mouse button or corresponding button on toolbar
- to decrease of a preview scale: press a right mouse button or corresponding button on toolbar

Also user can display a Linz/Maginifier form where will be displayed a scaled image under mouse position.

In report preview form the next key combinations are available:

Home Go to the first page of report

Prior Go to the previous page of report

Next Go to the next page of report

End Go to the last page of report

Left Go to the corresponding page of previous bar/sheet (only for multi-bar/sheet reports)

Right Go to the corresponding page of next bar/sheet (only for multi-bar/sheet reports)

Escape Close a report preview form

Ctrl+P Print a current prepared report

Ctrl+S Save/Export a current page in file

Ctrl+A About SMReport

Report structure

Each report in SMReport Designer is a set of bands and in every band end-user can add unlimited number of controls. The set of bands in the report is not fixed and depends from selected report type.

Structure and order of the bands is the next:

Title of the report (btReportTitle)
Header of the page (btPageHeader)
Header of the column on the page (btColumnHeader)
Header of the grouping #1 (btGroupHeader)
...
Header of the grouping #... (btGroupHeader)
Detailed band (btDetail)
Footer of the grouping #... (btGroupFooter)
...
Footer of the grouping #1 (btGroupFooter)
Footer of the column on the page (btColumnFooter)
Footer on the page (btPagFooter)
Summary of the report (btReportSummary)

Report form may contain any number of every kind of bands and/or omit any one.

Report controls

In SMReport Designer you may use next control types:

TSMReport - main component which contain a band collection and which allow to design, print, preview, export a generated report

TSMRBand - band type. This is a logical part of report form which may contain different controls. The band types is an one from the next:

btReportTitle title for report (once in beginning of report print)

btReportSummary summary for report (once at end of report print)

btPageHeader header for report page (above on each page of report)

btPageFooter footer for report page (below on each page of report)

btColumnHeader header of column (within every page) (in the beginning of each column on each page)

btColumnFooter footer of column (within every page) (at the end of each column on each page)

btGroupHeader header for grouping (in the beginning of each group)

btGroupFooter footer for grouping (at the end of each group)

btDetail detailed (for each record of data source)

Next control types could be placed on any band:

TSMRLabel The component for displaying the static text or memo

TSMRExpression The component for output of the text from dataset field or any calculated variable.

TSMRSysData The component displaying value from system variables. *TSMRLine* The component for drawing graphical lines (horizontal, vertical, diagonal etc).

TSMRRectangle The component for drawing graphical rectangles (rounded, square etc).

TSMREllipse The component for drawing graphical ellipses or circles.

TSMRImage The component for glyph/image displaying (from data source field or from file)

TSMRRichEdit The component for displaying the RTF-formatted text from field or file

Each control/band may have a frame control (TSMRFrame) for the definition of own framing (line type, placement, color, wallpaper image and picture style etc).

Also any control/band can set a background color and filling style.

Formatted data output

Any TSMRExpression or TSMRSysData control dropped on the band may have a formatting string where you could specify a format of data presentation. Each expression have a set of format strings depending on a type of expression.

In the following table are listed the possible sets of strings for formatting expressions:

Format strings for character expressions

@C Tag for character expression formatting output

@U Conversion of all characters of expression in upper case

@L Conversion of all characters of expression in lower case

@P Conversion of all characters of expression in proper case (first character of each word is upper)

@T To remove all blanks in the beginning and end of expression

Format strings for numeric expressions

@N Tag for numeric expression formatting output

@NDx Defines an amount of decimal signs.

The x variable can accept value from 0 up to 9

If not is defined, undertakes from Windows customizations

@NSx Defines a character-separator of the whole and fractional parts of number.

The x variable contains any character

If not is defined, undertakes from Windows customizations

@NTx Defines a character-separator of triades in the whole part of number.

The x variable contains any character

If not is defined, undertakes from Windows customizations

@NS Defines a scientific format for number output like 1.21E+03

@NB Prohibits printing zero values

@NRx.x Defines a coefficient of values roundoff

The x.x variable can accept value from 0.0000001 up to 1000000

If is not defined, the expression is not rounded off

@CT Defines the expression type as currency

If not is defined, undertakes from Windows customizations

@CSx Defines a character for currency sign.

The x variable contains any character

If not is defined, undertakes from Windows customizations

@CPx Defines a format for positive numbers in currency.

The x variable can accept one of values:

0: \$122.13

1: 122.13\$

2: \$ 122.13

3: 122.13 \$

If not is defined, undertakes from Windows customizations

@CNx Defines a format for negative numbers in currency.

The x variable can accept one of values:

0: (\$122.13)

1: -\$122.13

2: \$-122.13

3: \$122.13-

4: (122.13\$)

5: -122.13\$

6: 122.13-\$

7: 122.13\$-

8: -122.13 \$

9: -\$ 122.13

10: 122.13 \$-

11: \$ 122.13-

12: \$ -122.13

13: 122.13- \$

14: (\$ 122.13)

15: (122.13 \$)

If not is defined, undertakes from Windows customizations

Format strings for date expressions

@D Tag for date expression formatting output

@DL Defines a long Windows date format (dddddd)

@DS Defines a short Windows date format (dddd)

@DRx Defines a character-separator for date string.

The x variable contains any character

If not is defined, undertakes from Windows customizations

@DDx Defines a user's format for day number outputting.

The x variable can accept one of values:

0: 4 (d)

1: 04 (dd)

2: none

By default is equal 1

@DMx Defines a user's format for month number outputting.

The x variable can accept one of values:

0: 4 (m)

1: 04 (mm)

2: Feb (mmm)

3: February (mmmm)

4: none

By default is equal 1

@DYx Defines a user's format for year number outputting.

The x variable can accept one of values:

0: 99 (yy)

1: 1999 (yyyy)

2: none

By default is equal 1

@DVx Defines a character-separator for day of week.

The x variable contains any character

If not is defined, is equal to date separator (look @DR format string)

@DWx Defines a user's format for outputting day of week.

The x variable can accept one of values:

0: Mon (ddd)

1: Monday (dddd)

2: none

By default is equal 2

@DOx Defines the order of date outputting.

The x variable can accept one of values:

0: DMY

1: DYM

2: MDY

3: MYD

4: YMD

5: YDM

By default is equal 1

Format strings for time expressions

@T Tag for time expression formatting output

@TL Defines a long Windows time format (tt)

@TS Defines a short Windows time format (t)

@TDx Defines a character-separator for time string.

The x variable contains any character

If not is defined, undertakes from Windows customizations

@TAx Defines a AM-string

The x variable can accept any character string value

@TPx Defines a PM-string

The x variable can accept any character string value

@THx Defines a user's format for hour number outputting.

The x variable can accept one of values:

0: 4 (h)

1: 04 (hh)

2: none

By default is equal 1

@TMx Defines a user's format for minute number outputting.

The x variable can accept one of values:

0: 4 (n)

1: 04 (nn)

2: none

By default is equal 1

@TSx Defines a user's format for second number outputting.

The x variable can accept one of values:

0: 4 (s)

1: 04 (ss)

2: none

By default is equal 1

@T24 Defines a format of 24-hour time outputting

Is equal by default

@T12 Defines a format of 12-hour time outputting

Thus are taken into account defined AM-/PM-strings

(see @TA and @TP format strings)

PS: Format strings for one type of data can be united.

Formatting strings for various data types can be united only in the following cases:

- number + currency
- date + time

Unlimited group levels

You can create any levels of data grouping and define any custom condition for any group. Every group header and footer could contain printable controls which maybe reprinted on new page.

Condition of group is the custom expression from list of available system or custom functions.

Report examples

In this section you may find a few samples for some standard report forms. Each example from this list could be found in DEMOS directory of deployed archive or downloaded at <http://www.scalabium.com>.

Simple data list

For this report type all what you need is a band (btDetail kind) with the controls, which are placed on this band. These controls could have any type - field values, static texts etc. Additionally you may add the title and/or summary band for report, and maybe header and/or footer for page.

Data list with one level of data grouping (Master-Detail level)

For this report type you may add (additionally to previous report type) the one group with grouping condition. Automatically will be added two bands for group (btGroupHeader - header for group and btGroupFooter - footer for group).

The rule of report generation the following - with pass by data source is made check on change of value on a defined group condition and in case of its change the printing footer of the previous group and printing of header new is made..

PS: Pay attention to that in a band of group footer current record is the last record from data source which is included in the previous grouping. The cursor will be moved on next record already in header of the next group.

Report with several levels of data grouping (Master-Detail-...-SubDetail levels)

For this report type additionally to previous report type you may add any desirable number of group and specify for each of them a condition and order of nesting in other groups. For every group will be automatically created two bands (btGroupHeader - header for group and btGroupFooter - footer for group).

PS: Pay attention to that the order of grouping depends on the order of groups nesting. For change about nesting in mode of operations with the group list drag'n'drop a selected group in a desirable place.

Report with MEMO-/BLOB-/GRAPHIC-fields

To display a data from MEMO-fields is a same as for any other standard field type. Simply

place the object of a TSMRExpression type, include a word-wrap mode and select a field name.

To display a data from GRAPHIC-fields place the object of a TSMRImage type and select a field name.

Report with fixed bands/controls placement

Sometimes it is necessary to form the reports with the fixed location of some bands or controls. More often developers of the standard report forms collide with it.

For such type of report all what you need is to set a desirable height of band and to switch off a Stretch property. In this case this band will not change a height depending on height of controls, which are there.

The similar property exists for any control so you may control a desirable layout of the printed values in the necessary location. Also pay the your attention to Object Vertical Position property where you may link a control position to logical band position.

Multi-columnar report

If you must design a report from several columns, go to "Other" page in a "Parameters of the report" dialog and specify a column number on each page and distance between them. Automatically will be created two bands - header of a column (btColumnHeader) and footer of a column (btColumnFooter).

With printing such report with achievement of the page end the printing will proceed from a new column on this page, and the new page will be generated only with filling only amount of columns.

Such report type frequently is named the Label-report, as is used for printing labels more often.

PS: multi-columnar report does not superimpose any limitations on bands in it, i.e. any report can be printed like multi-columnar report.

Composite report

The composite report allows to generate the report consisting from several others.

For it place on the form of TSMRCompositeReport component, and add in property Reports of the report references, which need to be included in it. By composite report generation, will be generated all reports, which included in it (in that order which they are brought).

PS: Pay your attention to that it is possible to include in the composite report as the reports designed in Visual SMReport Designer (TSMReport components), and any auto generated report (TSMPrintData and TSMPrintText components).