



i-net
Crystal-Clear**X** version 10

Basic Concepts

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1 Content

i-net Crystal-Clear is a reporting solution which allows generation of reports based on dynamic data. To create a report you have to design the report template and specify where the data is coming from. This guide will try to clarify some of the basic concepts underlying this reporting tool.

2 Introduction

Welcome to the "Basic Concepts Guide". The following sections provide some details on the different elements that can be used in i-net Crystal-Clear and their common properties. If you are looking for more hands-on information you should take a look at the "Getting Started Guide".

3 Areas & Sections

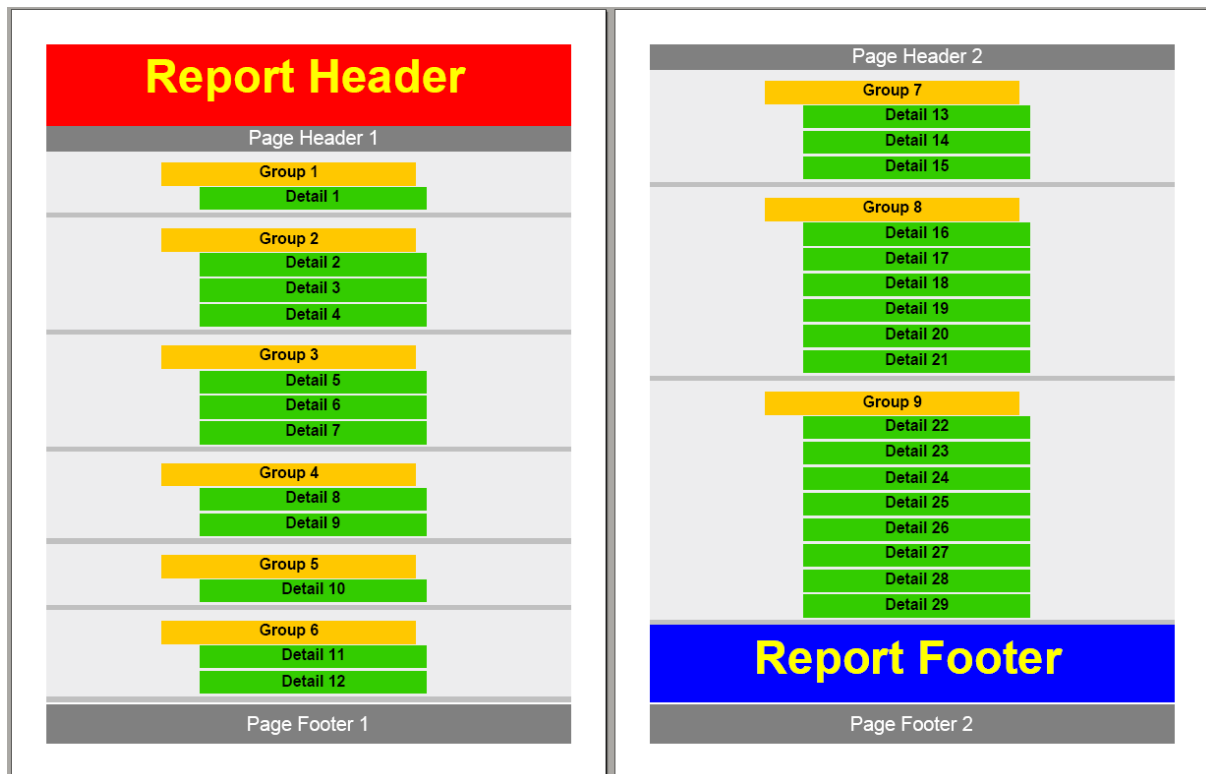


Illustration 1: Areas and Sections

Two of the most basic concepts are those of areas and sections. A report is made up of multiple areas. An area can be seen as container for one or more sections. Sections can contain one or more elements, like text field(s), image(s) etc.

A section is a physical region with height, width and background color. As subdivisions of areas, sections make sense in cases when “Can Grow” elements are positioned above other elements, which are not supposed to be hidden if the former grow too big.

There are 7 types of areas:

- ▷ Report Header
- ▷ Page Header
- ▷ Group Header
- ▷ Detail
- ▷ Group Footer
- ▷ Page Footer
- ▷ Report Footer

A simple report without grouping contains five areas with one section each. Each area type has a special meaning which determines where it will be placed in the report. Let's take a look at the different types of areas and what they stand for.

3.1 Report Header

The report header is always the first area in a report. It starts at the top of the first page. There is only one report header area per report. [Sub-reports](#) of course have their own report header which is on the first page of the sub-report.

3.2 Page Header

The page header is printed on the top of each page, except for the first page. On the first page it is printed directly below the report header. If the report header spans multiple pages the first page will not have a page header. There is no page header in sub-reports since they do not have their own pages.

3.3 Group Header

The [group](#) header is printed whenever a new group begins. Also, it is printed below the Page Header if the group spans multiple pages and the group property "Repeat Group Header on each Page" is enabled for the group. There can be multiple group headers per report.

3.4 Detail

The detail area is placed between report header and footer and between the corresponding group headers and footers if there are groups. The detail section(s) will be rendered once for every row returned from the data source (for example a database).

3.5 Group Footer

The group footer is printed after the last detail section of each group or if there are groups within groups after the last group footer of the last enclosed group.

3.6 Page Footer

The page footer is printed at the bottom of each page. Sub-reports do not have page footers. The size of the page footer has to be known when beginning to render the page. It cannot grow beyond the size it is designed to have. The elements contained in it can also not grow. The final section of a report will always be a Page Footer.

3.7 Report Footer

The report footer is printed either after the last detail section or the last group footer section if there are groups. There is only one report footer area per report.

4 Fonts

To display or to print text with a computer fonts are used. A font is a collection of glyphs with a glyph defining the appearance of a character. It describes what a letter or a symbol looks like. In most cases one character is represented by one glyph and vice versa, but there are cases of single characters being represented using multiple glyphs or one glyph representing more than one character.

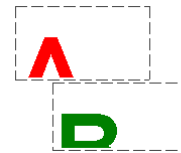
A font has to be available when a document is to be displayed or printed. This leads to problems, since not all fonts are available on any given system. The fonts you can use varies widely between different operating systems and even between computers with the same operating system. Different output formats also use different ways of specifying fonts.

If you use a different font to display or print a document it will look different. To work around the font availability issue some formats allow fonts to be embedded. This means that all glyphs that are actually used in the document are written into the document. When using embedded fonts the document will look the same no matter where it is displayed or printed. It is not possible in all formats and increases the size of the document.

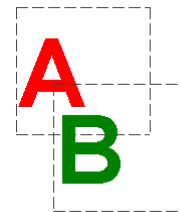
5 Can Grow

If this option is set on an element, it is allowed to grow beyond the size it was assigned during the design phase, the minimum size. If an element grows bigger than the section it is located in, the section will grow as required.

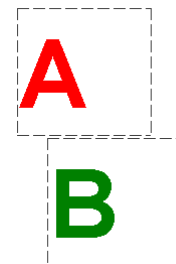
Take for example two text elements whose text requires more space than allocated during the design phase. If Can Grow is not set, they will be rendered with the designed size and text which doesn't fit will be clipped.



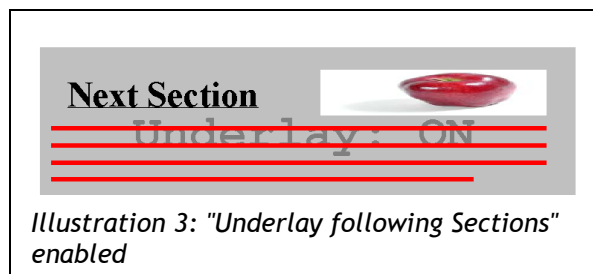
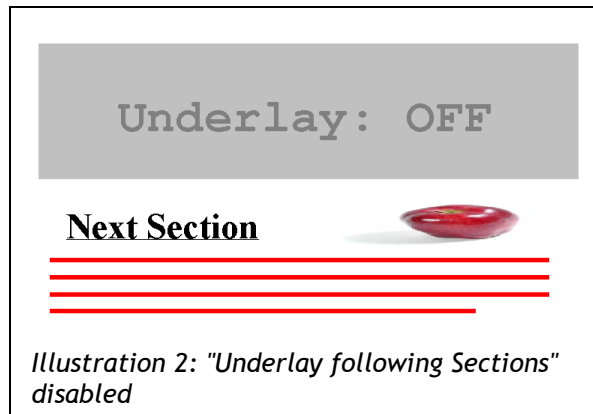
To ensure that text is not clipped you can set Can Grow for these elements. Their size will be dynamically determined at run time and all text will be shown. It will not influence the placement of elements within a section. This is why growing elements might overlay other elements below it within the same section.



If this is not desired, the remedy is easy. Just create a new section within the same area and place the elements that should not be overlaid into this new section. The original section will expand with the growing element and the following section will be moved along with all contained elements. Elements that are in the page footer cannot be set to can grow.



6 Underlay Following Sections



This option can only be set on sections. If it is enabled, it will cause the section to be printed underneath sections following it. If the following section has no background color, the section that was set to underlay it will show through and provide a background color.

A section cannot underlay itself, which means that a detail section will not underlay another identical detail section. Since there cannot be any sections below a page footer, setting this option on a page footer has no effect.

7 Suppress



Illustration 4: Suppressed Detail Sections

Something that is suppressed will not be displayed nor take up space. You can set the suppress property directly or specify a formula that will be evaluated to determine whether the element/section should be suppressed in this context.

8 Page Breaking

When a section grows too large to fit on the page it will be printed on the next page or broken up into two pieces. The minimum size, the one set at design time, cannot be broken up. It will always be on a single page. When “can grow” is set, there is the possibility that sections and/or elements are broken up into two or more pieces to spread them over multiple pages.

If the minimum size does not fit on the page it is first placed, it will be moved to the next page completely. If it does not fit on the next page it will still be printed there, but everything that does not fit will not be printed and thus not be visible.

You can exert control over the page breaking by declaring multiple sections per area and using the 'Keep Together'-option. When this option is set a section will not be broken up over multiple pages. It is not available for page footers and page headers since they are supposed to be on only one page.

9 Groups

You can define groups for your report. Groups are blocks of data with a common property, like the same surname. For more information see the „i-net Crystal-Clear - Grouping / Sorting“ guide.

Some properties are specific to groups.

9.1 Drill Down

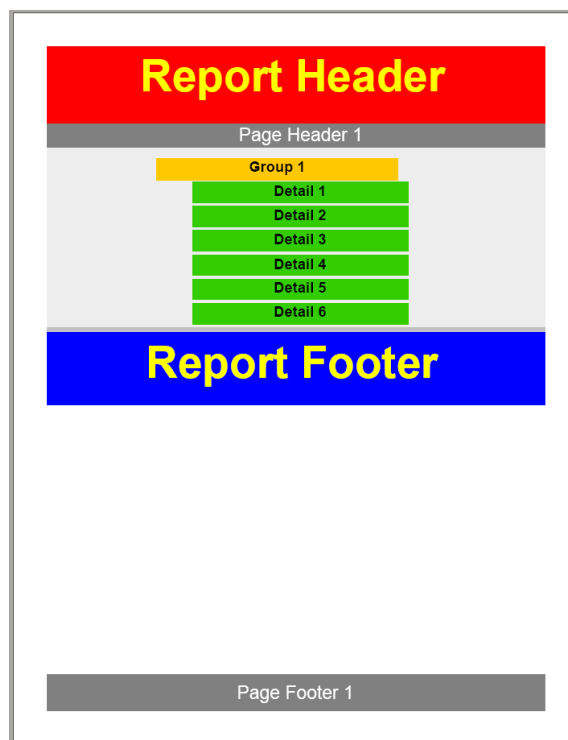


Illustration 5: Drill-Down into Group

Drilling down into a group is essentially the same as executing the report again, but suppressing all groups except the one you are drilling down into.

9.2 Repeat Group Header on Each Page

If this option is chosen the group headers of each group that is at least partly visible on a page will have its header printed on it. If it does not start on the page the header will be printed at the top of the page.

9.3 Customize Group Name

This option allows you to give the group a name different from the one that is provided by the database. You can also set a formula which will calculate the name when it is printed.

9.4 Sorting

There are different ways to sort the elements of a group. They can be sorted either by value, by summary, by a user-specified order using formulas, or not at all.

9.5 Hierarchical Grouping

If you set your groups to group hierarchically, then you can specify an indent that will be applied to the groups according to their nested level. This way you will be able to see immediately how far down in the hierarchy the element in question is.

10 Sub-Reports

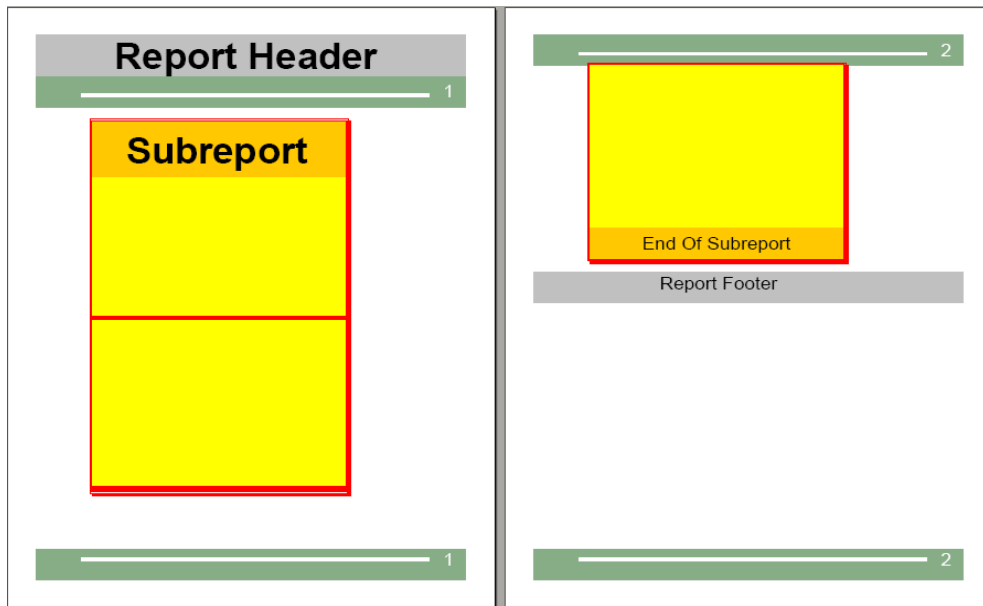


Illustration 6: Sub-Report in Detail Section

Sub-reports are essentially reports in their own right. They do not have page header or footer, since they are always embedded in a regular report which already defines page header(s) and footer(s). A sub-report can be used when you need a different database connection.

10.1 Sub-Report on Demand

Sub-reports can either be embedded directly into the main report or they can be linked to from the main report. If they are embedded, they will take up space in the report and are executed at the time the main report is executed. In the case of links, the sub-report shows up in the main report as a mere link. When the link is clicked, the sub-report will be executed and shown as a separate report.

10.2 Sub-Report Links

With sub-report links you can make data from the enclosing report available to the sub-report. You can specify database fields which will be accessible from within the sub-report as parameters. This makes sense for example when you want to have a more elaborate structure in your detail sections.

11 Troubleshooting

11.1 Why is my section cut off?

If did not fit on the page that it was started on, it is printed on the next page. If it does not fit onto a single page it is cut off.

11.2 Why is the Page Header not at the top of the first page?

If you did not suppress the Report Header, it will be printed above the Page Header. The Report Header may also be so big, that there is no room for a Page Header on the first page at all.