
BIRT LIBRARY FEATURE SPECIFICATION

Author: Rima Kanguri, Wenbin He.

Draft 1

1. Introduction	12
2. Library Management	2
2.1 Create library	2
2.2 Update Library	2
2.3 Browse library	2
3. Using a Library file	23
3.1 Include a library into a report design.....	23
3.2 Remove library from a report design file.....	3
3.3 Library Browser.....	3
3.4 Add a library component into the report design.....	3
3.4.1 ReportItems (Visual items like Label, Table, Text, Data, Grid, List etc.).....	3
3.4.2 DataSources	34
3.4.3 DataSets	4
3.4.4 Embedded Images.....	4
3.4.5 Master Page.....	4
3.4.6 Styles	4
4. Accessing the Library through ROM API.....	45

1. Introduction

A library is a customizable, pre-defined set of rules that helps a user quickly create a report with a specific look. A library includes both formatting information and rules that help the developer create a report. A library may start with a “style sheet”: a set of common styles to apply to all reports within an application. The library can then add commonly used data sources, reusable ReportItems, images and more.

It is labor-intensive to create a suite of reports that look the same. This specification proposes to simplify this task through a library feature.

A library is a collection of ReportElements that can be re-used in multiple report designs. The elements include visual and non-visual components. When a report is created the library can be included and its components can be used in the report. The library file is represented by a .rptlibrary extension.

Library support will be provided for the following ReportElements:

- All the visual Report Items like Label, Text, Table, Grid etc.
- DataSources
- DataSets
- Embedded Images.
- Master page
- Styles

2. Library Management

The following Library management operations are supported. A library developer creates a library and places it in a shared location to be reused by other report developers.

2.1 Create library

- Create a new library file. The library file is created with a .rptlibrary extension.
- Add new ReportElements to the library file; this includes all the visual and non-visual ReportElements listed in section 3.4.
- Define the properties and structure of the ReportElement.
- A library file cannot include another library file.

2.2 Update Library

If a library element is modified all the report designs that include the library will be affected; all the report elements (in the report design) that refer to the library element, will get the updated properties. Browse library

2.3 Browse library

User will be able to browse different components in the library by using the library browser. This will allow the library developer to view all the elements already defined in the library file.



Note: Deployment of the Library will be covered as part of BIRT deployment project.

3. Using a Library file

A library could be used in multiple report designs. Following are the operations supported which are related to using a library in a report design.

3.1 Include a library into a report design.

- User can include multiple libraries into to a report design
- User can specify relative or absolute path while including the library
- Validation is done, if there any serious errors the library is not included. Some of the errors are listed below
 - Invalid Library file, which causes parsing errors.
 - Name conflict between the name for ReportElements defined in the report design and the ReportElements in the library; the following

ReportElements types need to have unique names: DataSources, DataSets, Embedded Images.

- On including the library, the report design behaves as if the library was loaded on report design load.
- The design may have had unresolved references before including the library. If the library contains elements that will resolve these references, they are automatically resolved as soon as the library is included.

3.2 Remove library from a report design file.

If the report design references an element from the library, the unresolved references is flagged as error in the report design.

3.3 Library Browser

Library Browser supports the following:

- Viewing the **libraries** included a report design.
- Viewing the different ReportElements in a library

3.4 Add a library component into the report design.

The following Report Elements can be added into a report design.

3.4.1 ReportItems (Visual items like Label, Table, Text, Data, Grid, List etc.)

- When a library is included in a report design, all the ReportItems defined in the library are available
- To use Report Item from a library, user needs to explicitly add the ReportItem from the library in to the report design. Adding a ReportItem to a report design creates a new ReportItem instance that inherits the ReportItem from the library.
- Properties of the ReportItem in the report design can be overridden. The ReportItem structure cannot be changed. If the ReportItem is a container like Table, List then properties of the contained ReportItems can also be overridden.

3.4.2 DataSources

When a library is included in a report design all the data sources defined in the library are available in the report design.

- The ReportElement in the report design can directly reference the DataSources defined in the library.
- DataSource name should be unique. Library and report design share the same name space for DataSource.

3.4.3 DataSets

When a library is included in a report design all the datasets defined in the library are available in the report design.

- Report Elements in a report design can directly reference the DataSets defined in the library
- DataSet name should be unique. Library and report design share the same name space for DataSet.

3.4.4 Embedded Images

When a library is included in a report design all the images defined in the library are available in the report design.

- ReportElements in a report design can directly reference the embedded images defined in the library
- Image name should be unique. Library and report design share the same name space for embedded images.

3.4.5 Master Page

Master pages are reusable components available to report designs, when a library is included all the master pages are available in a report design.

- ReportElements can directly reference the master pages defined in the library.
- All master pages (including those defined in libraries and the report design) occupy a single name space.

3.4.6 Styles

When a library is included in a report design all the styles defined in the library are available in the report design.

- ReportElements in a report design can directly reference the styles defined in the library.
- Design can define a style with the same name as the one defined in the library, in this case the report style takes precedence
- Two libraries can define the same style, in this case the second style takes precedence over the first.

4. Accessing the Library through ROM API

ROM will enhance the public API's to perform library related operations. The report designer will use the ROM API to perform all the library related tasks. The API will support the following operations.

- Create a new report library file.

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- Add/Edit ReportElements to the library file.
 - Include a library to a report design file
 - Remove a library from a report design file.
 - Add ReportElements to a report design, that reference library components