

Advanced formatting capabilities with Arbortext Styler

An overview of the advanced Print and PDF formatting capabilities and how to use them within Arbortext 6.0.

Introduction

The Arbortext product suite has been providing XML authoring and dynamic publishing solutions for many years. The well known Arbortext Editor is a robust and highly configurable XML editing and authoring tool with word processor like features, used around the world with a multitude of document types and data models (Figure 1).

It has also been integrated with a number of different content management systems such as Documentum, Acolada and Docufy, as well as Arbortext Content Manager (ACM), which is a publishing focused implementation of PTC's Windchill product.

About Styler

The Arbortext Styler product is a multi-format stylesheet development and management tool that is used in conjunction with Editor (Figure. 2). It enables users to build a single stylesheet which is targeted for one or more of the following output types:

- ◆ Editor stylesheets; control the XML content presentation within the Editor view, as below.
- ◆ Print & PDF; layouts and styling.
- ◆ HTML & HTML help.
- ◆ Arbortext Digital Media Publisher.
- ◆ ePub.
- ◆ RTF for MS Word.
- ◆ Web.

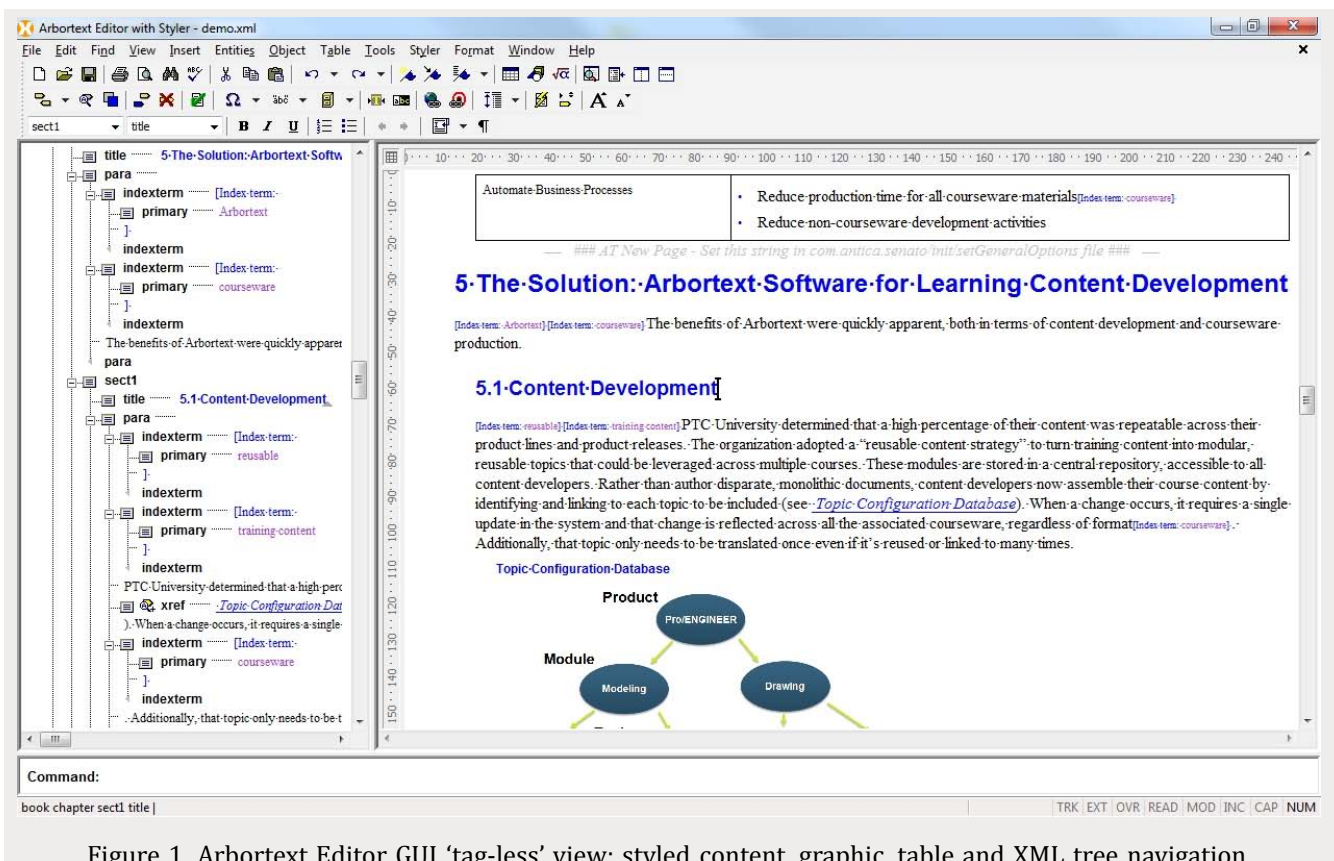


Figure 1. Arbortext Editor GUI 'tag-less' view: styled content, graphic, table and XML tree navigation.

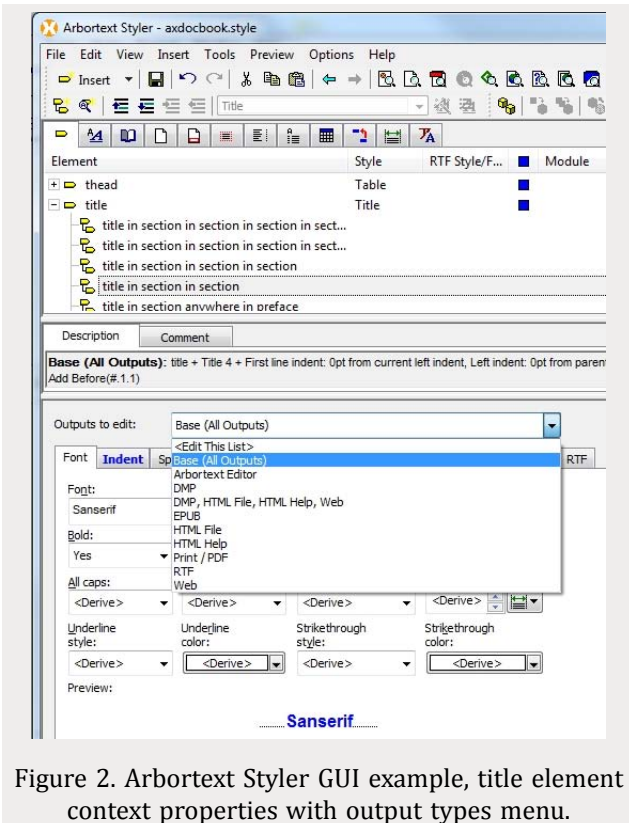


Figure 2. Arbortext Styler GUI example, title element context properties with output types menu.

Formatting engines

Since its inception the default Print & PDF formatting engine was based on Formatting Output Specification Instance (FOSI) stylesheets and the accompanying XSL-FO engine was added when this W3C standard was released. These have now been joined by

Arbortext Advanced Print Publisher (APP), which became the new *default* engine in Arbortext 6.0.

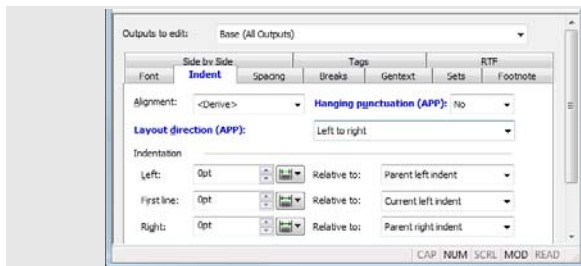
The Integration of APP into Styler has provided a more feature-rich composition engine on which to further develop Styler and meet the growing needs of its users. Styler already makes use of APP's multi-lingual support and complex page layout capabilities. As well as becoming the default engine behind the existing interface, many of these newly exposed APP feature sets are also configurable from the Styler GUI.

The APP composition engine is a highly capable Print & PDF solution, used extensively for many years in a standalone desktop and server configuration. The integration now allows Styler and Arbortext Publishing Engine users (APE) to access APP's superior capabilities.

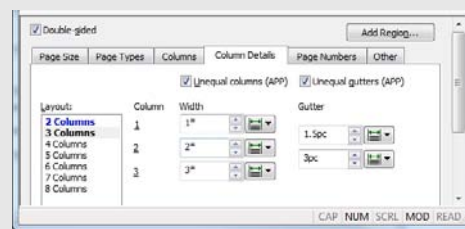
Styler APP specifics

Core features of the APP formatting capabilities have been exposed in the Styler interface to enhance the options available for users. In the following dialogues you can see the some of the new options available, including (Figure 3.):

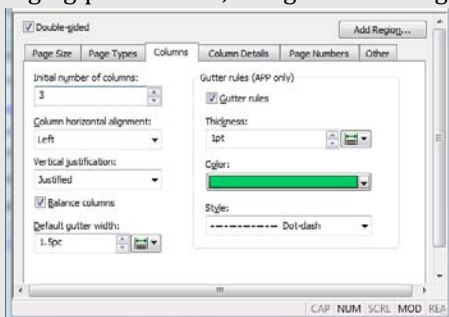
- ♦ Right to Left layouts and Hanging punctuation.
- ♦ Column gutter rules.
- ♦ Flexible Column widths and gutters.
- ♦ Page region borders.



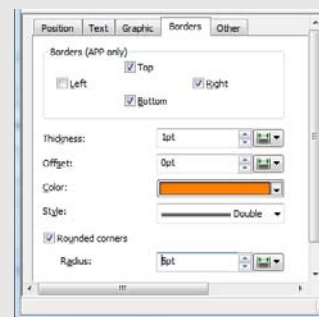
Dialogue 1; Arabic and Hebrew formatting with 'right to left' and Hanging punctuation, using APP kerning tables.



Dialogue 3; Flexible column & gutter widths.



Dialogue 2; Column gutter rules.



Dialogue 4; Page region borders.

Figure 3. Styler Interface

Beyond the GUI

If a document type requires more specialist processing and formatting configuration than currently offered through the Styler GUI, then *all* of the APP features can be accessed via additional methods at the code level, for system developers to greatly enhance the formatting and automation potential. An overview and use cases of these methods are described in the following sections.

Source code edits

Source code edits give users the ability to directly write custom code snippets to the context level using the APP JavaScript Formatting Object Model (FOM) API. Source code edits can be applied to different stylesheet components with Styler such as elements in context, property sets and page regions. They can be used for anything from simple style processing extensions to running additional APP functions and commands. (Figure. 4).

Use case scenario: extended text property controls

If your documents require a higher level of control over your text properties than the default settings, then all of APP's other text property controls can be accessed using the source code edit method.

For example if you wished to adjust some properties relating to the hyphenation control like the maximum number of consecutive hyphens and the hyphenation

character itself. The source code edit applied to the element or property set would include the applicable code, referenced from the FOM API reference documentation.

Stylesheet template associations

Users have the ability to associate APP templates created in the desktop version containing anything from custom colour and frame tags to tailored formatting functions called via source code edits (Figure 5).

Use case scenario: custom colour use

As an example, if a custom gradient fill with Pantone + ® colours was required for an area fill, then this option is not currently available in the Styler GUI. This can however be defined using regular menu options in APP desktop (Figure. 6), then a template with this colour definition can be associated with the Stylesheet and called from a source edit.

In this case, it is a relatively simple custom colour definition, but in essence it can be any APP property or function defined and invoked with this method.

Use case scenario: tabular ToC conversion

There is a requirement for a custom tabular layout in an auto generated table of contents, not currently available from the Styler interface options. This solution takes the concept of associated template functions a step further.

Standard table structures including XHTML and CALS are supported directly, so if a CALS structure can be defined for the table of contents and the applicable element content populated in the table, this will give us the required layout control.

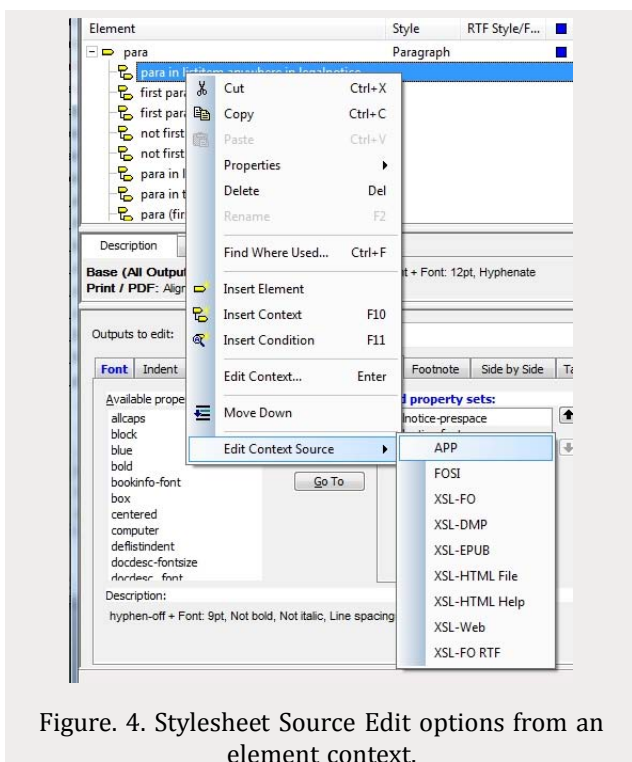


Figure. 4. Stylesheet Source Edit options from an element context.

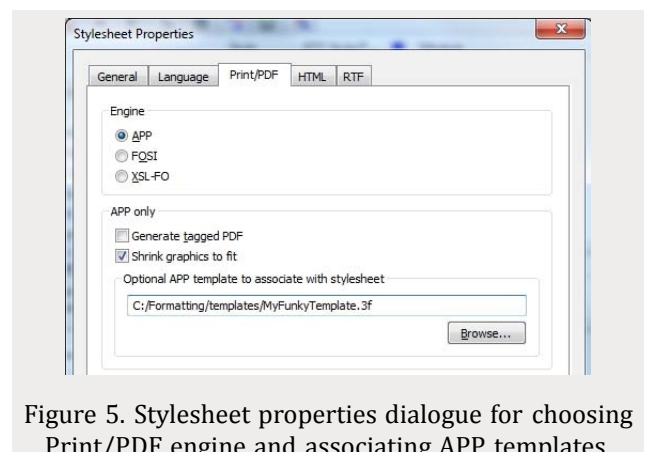


Figure 5. Stylesheet properties dialogue for choosing Print/PDF engine and associating APP templates.

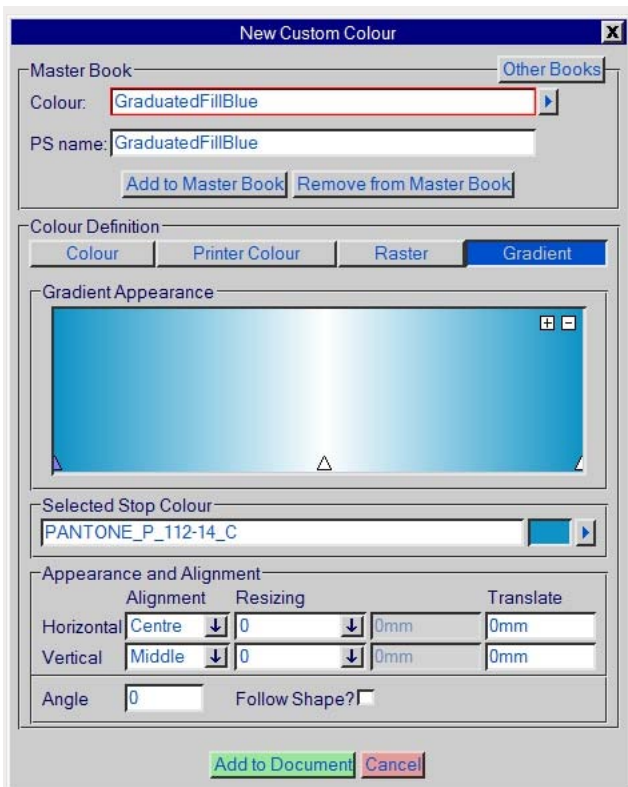


Figure 6. APP Custom colour definition dialogue.

In APP you can run XSLT processes and have the ability to augment the XML DOM stream. Using these tools within an associated APP template, an XSLT stylesheet can build the table of contents from the input DOM in a CALS structure and Styler menu functions can take care of the numbering output. This XSLT result is then augmented to the main DOM stream and rendered using the built in CALS library during document formatting.

Use case scenario: enriched DOM export

There is a requirement for an enriched output of the XML data stream for repurposing and archiving the content. The enriched stream needs to contain all items of generated text; from heading and list

numbering to tables of content, Indices and other specific items of formatting information.

During formatting processes when running with Styler and APE, APP uses the XML DOM stream which can contain much of the standard generated text items that have been configured. This DOM stream can then be captured and exported with configurable properties.

With some additional extensions to capture other live formatting properties, this process will result in an XML data stream following the structure of the original input and enriched with all of the specified generated text and formatting information. Information which is normally only held in the stylesheet, or in memory during formatting.

Using native APP templates

If you have complex custom layout or processing requirements that lend themselves better to a native APP template solution. Or if you have existing APP templates you wish to use within the Styler and APE environment, then these can also be used directly by selecting the appropriate template as the stylesheet when printing. This option also gives users the option of manual finishing on composed files within the APP Desktop.

Future Styler

Integration has brought together the worlds of the classic Arbortext solution and APP functionality giving users a greatly extended composition capability. APP is now the foundation of further Print & PDF enhancements made in Styler and future releases will expose more features starting with table styling, word/letter spacing and hyphenation controls. A free trial of Arbortext Editor with Styler is available upon request.

References & reading

This article was published in the [ISTC Communicator Journal](#), Winter 2011 Edition (ISSN 0953-3699).

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Related reading: Western, C (2010), '[The evolution of Arbortext APP](#)', *Communicator*, Autumn 2010:15-18

Typesetting with APP (3B2) 11.0.2721/W Unicode-x64 (Dec 16 2011) on the 4th January 2012.

Terminology

- ◆ ACM: Arbortext Content Manager
- ◆ APE: Arbortext Publishing Engine, formerly E3
- ◆ APP: Arbortext Advanced Print Publisher, formerly 3B2
- ◆ Arbortext Editor, formerly named Epic and Adept
- ◆ CALS: Tables markup standard from Oasis
- ◆ DMP: Digital Media Publisher
- ◆ DOM: Document Object Model
- ◆ FOSI: Formatting Output Specification Instance
- ◆ GUI: Graphical User Interface
- ◆ Import/Export: Arbortext MS Word & FrameMaker Import and export conversion tool
- ◆ XHTML: eXtensible HyperText Markup Language
- ◆ XML: eXtensible Markup Language
- ◆ XSLT: eXtensible Stylesheet Language Transformations
- ◆ XSLFO: Extensible Stylesheet Language Formatting Objects
- ◆ W3C – World Wide Web Consortium www.w3.org