

Pragma ADE

Mission statement

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Introduction

This document introduces you to Pragma Advanced Document Engineering and the ConT_EXt typesetting system developed at Pragma. We also discuss our company's manner of operation.

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The ConT_EXt engine

ConT_EXt is a typographical engine written in the typographical computer language T_EX. ConT_EXt provides you with a convenient way to encode documents in a structured way and to typeset these documents in various ways on paper, computer screen or web site.

Use ConT_EXt to create simple documents and complex layouts. From a single source produce traditional paper documents as well as highly interactive electronic documents. Combine text and graphics and other information in your document in different ways. Move around, use and reuse information and typeset in one or more natural languages.

The engine comes in two variants: MkII and MkIV. The MkII version is frozen and runs on top of pdfT_EX. The MkIV variant on the other hand uses LuaT_EX and is developed in sync with this new flexible T_EX engine.

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The MetaFun subsystem

MetaFun (a superset of well known METAPOST) is a powerful system for vector graphics that is fully integrated into ConTEXt thereby reaching its full potential for the first time, but also useable as a stand alone product.

MetaFun is not for interactive drawing applications and not for free hand drawings. Its strength lies in the ability to enhance the document layout with highly accurate graphics elements.

In ConTEXt MkIV we use LuaTEX which has METAPOST embedded as a library which enables us to get a high performance.

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The eXaMpLe project

ConT_EXt facilitates the coding of highly structured documents but less structured, low level, directives can still be intermixed and are not blocked. Coding in xml is more restrictive with the advantage that one can be more certain that the input matches the formal document description. Another benefit of xml is that editor software can be specially setup for enforcing structured documents.

For simple documents, coding in xml — although verbose — does not differ much from ConT_EXt, but as soon as the need to reuse content arises much more tagging is required. The area where coding in ConT_EXt has a real advantage over coding in xml is for mathematics, since it seems to be better adapted to a mathematician's mind. This, however, opens the door to inconsistent markup. In ConT_EXt, therefore, it is possible to mix xml and ConT_EXt.

eXaMpLe is an internal Pragma ADE project that combines the power of document encoding in xml with the advanced typesetting capabilities of ConT_EXt. eXaMpLe provides the user with tools and methods and uses the xml processing capabilities build into ConT_EXt.

In addition to the built in stream based xml parser the MkIV version also provides a tree based xml processor which is more flexible when it comes to manipulating content.

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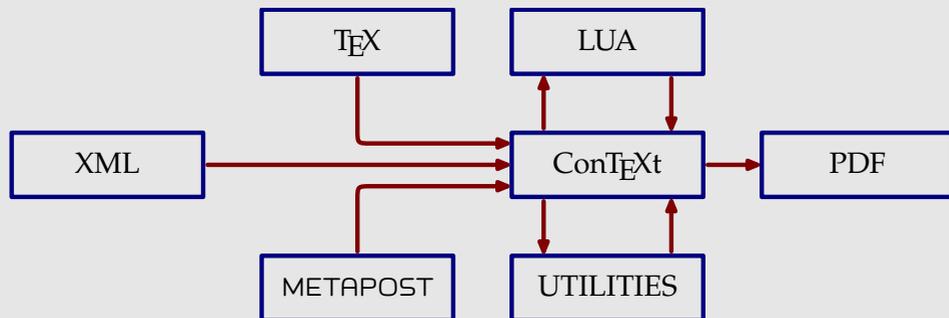
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How things relate

The core of the ConT_EXt system is the T_EX typesetting engine, but it is the integration with other technologies that provides it with real power.



The user may code in ConT_EXt or xml or both simultaneously. Third-party graphics can be included with ease and ConT_EXt understands and interplays with METAPOST such that its graphics output may adapt to its surroundings. If needed, external utilities or built in Lua code can manipulate the content and data can come from virtually every source.

The output is high quality portability pdf. This permits ConT_EXt to create intelligent documents with hyperlinks, JavaScript, movies, sound and other widgets. Of course ConT_EXt supports the latest font technologies.

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ConT_EXt system characteristics

ConT_EXt, the distribution, is a coherent system of macros, styles and tools, featuring:

- a powerful integrated typesetting kernel
- strong support for structuring
- parameter driven style setups
- extensible structuring with inheritance
- integrated interactive document support
- structured project organization of documents
- descriptive style definitions
- integrated xml parsers (including manipulation)
- all variants of MathML
- high level of data abstraction
- tight cooperation with METAPOST
- built in Lua scripting
- graphic inclusion (including management)
- resource management
- content reuse and selective processing
- (interactive) flow charts
- chemical structure formulas
- physical unit's management
- math typesetting environments
- several workflow related tools
- specific educational extensions
- typesetting-on-demand support
- dtp-competing output
- page imposition
- extensive layering and positioning
- presentation styles
- support for non latin scripts
- documentation, a mailing list and a wiki

ConT_EXt is being used for typesetting complex, often educational, paper based documents, journals, interactive manuals and user's guides, dynamic web documents. It is a suitable back-end for highly automated (on demand) workflows.

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The way we at Pragma ADE operate

ConTEXt is a software available free of charge, that may be downloaded from our website or from one of its mirror sites. The ConTEXt system, however, is a work in progress, meaning that we may add features when we need them in our projects.

Occasionally, you will see new methods being applied in our published documents or in those that are produced in publishing projects in which we participate. Once their usability is demonstrated and the interface stable we formally add these new methods to the ConTEXt distribution for others to use.

This way of operation gives our customers a competitive edge while at a later time ensuring the existence of a wider group of users to fall back on.

Pragma ADE activities can be grouped as follows:

- **Advanced Document Engineering:** here the focus is on on ConTEXt development, implementing typesetting workflows, maintaining complex documents, and developing developing styles.
- **Publishing On Demand:** there we integrate automated typesetting with our customers workflows, for instance by setting up ConTEXt–on–demand server application.
- **ConTEXt Typesetting Services:** here we focus on customer support and regular typesetting jobs.

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Pragma ADE's objectives

We continue to improve ConT_EXt and its accompanying tools, adapting it to new or changing demands. Our short-term objectives are:

- an even tighter integration with xml while at the same time providing those preferring ConT_EXt with a comfortable authoring environment;
- a series of generic styles for paper documents and public presentations;
- further mapping of ConT_EXt functionality onto xml, permitting mixed document encoding and a smooth transition between encoding methods;
- a Lua based frontend for ConT_EXt MkIV core functionality so that users can choose between T_EX, xml, and Lua as input language as well as style language
- additional tools for managing and enhancing resources (such as graphics) in response to a growing demand for document source reuse, where the same resources are used many times in different applications;
- support for xml formatting objects to embed third party xml code, to be implemented in a configurable way to achieve good consistency within a document.

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Pragma ADE's long term objectives

With priority given to project driven developments, we classify some objectives as 'long term':

- an integrated authoring environment to facilitate the production of highly complex documents, which will be based on publicly available tools as well as tools developed within Pragma ADE;
- automated support for common dtd's such that users maintain full control over the layout;
- manuals on how to well layout and code documents.

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How to obtain further information

ConT_EXt, MetaFun and eXaMpLe are original developments of Pragma ADE. With our roots in research and development of course materials for profit and non-profit organizations, we currently focus on high end automated typesetting, using the tools we developed for typesetting educational products.

All new tools developed are first used internally in projects and evolve with our own demands as well as those of users. Download manuals, examples and source code from our web site:

www.pragma-ade.com

or use one of the mirrors. You may also join the dedicated mailing list maintained by ntg:

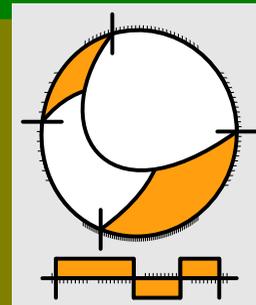
ntg-context@ntg.nl

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