Biuletyn GUST **25–26 (2008–2009)**

Editor's note: *Biuletyn GUST* is the publication of GUST, the Polish language TEX user group. Their web site is `http://www.gust.org.pl`.

Biuletyn GUST **25 (2008)**

ULRIK VIETH, Zrozumieć estetykę składu matematyki [Understanding the æsthetic of math typesetting]; pp. 5–21

One of the core strengths of TEX is the ability to typeset math to a very high level of æsthetic standards. However, this level of quality not only depends on TEX alone, but relies on close interaction between sophisticated algorithms (built into the TEX engine) and the fine-tuning of metric information (built into math fonts), which is not so well understood.

At a previous conference Bogusław Jackowski presented a paper, "Appendix G Illuminated", in which he translated the formal description of TEX's algorithms for math typesetting into a visual representation, illustrating the mathematical and geometric relations between the various font metric parameters. While this helps to improve the understanding, it doesn't resolve the question of how to determine good values of font metric parameters when designing a new font.

In this paper, we analyze the values of these parameters in existing fonts and draw some conclusions about the underlying design principles. In the end, we hope to obtain a recipe for how to determine good values of font metric parameters based on simple design parameters such as the x-height or rule thickness.

JONATHAN KEW, Co nowego w świecie X_ETEX-a? [What's new in the X_ETEX world?]; pp. 22–27

This presentation will review the current state of the X_ETEX engine and associated packages, with an emphasis on features that have been added or updated over the past year, and will be included in the TEX Live 2008 release. These include updated OpenType support, synthetic font styles, the polyglossia macro package, updated math font support, built-in source/PDF synchronization support, and more.

We will also look at how X_ETEX fits in with other TEX engines and with the wider software world. X_ETEX is not the only extension of TEX providing Unicode and modern font support, but it is based on a quite different approach from others, both old (Omega) and new (LuaTEX). Each has both strengths and weaknesses, which users should consider when choosing the appropriate tool for their particular needs.

KAREL PÍŠKA, Testy fontów TEX Gyre (wiosna 2008) [Tests of the TEX Gyre fonts (Spring 2008)]; pp. 28–33

The contribution presents the results of verification of previous and newest versions of the TEX Gyre fonts, shows examples of various testing techniques, overviews suggestions and bugs; many of them, reported earlier, have already been fixed in the recent releases. "Synoptic tables" have been produced to list a full glyph repertoire to check it for correctness of shapes, completeness, consistency between regular, bold, italic, and bold italic faces, etc. We will also discuss the status and the future of the Cyrillic and Greek parts.

MATEUSZ KMIECIK, Od Logo do Metaposta [From Logo to MetaPost]; pp. 34–40

The Logo language (turtle graphics) is recommended for teaching of informatics at secondary schools in Poland. It is a quite primitive language so young people quickly hit the limits when programming more advanced pictures. Could MetaPost be used to this end?

PIOTR KRAKOWIAK and TOMASZ ŁUCZAK, Dragonia Magazine – kulisy redakcji [The Dragonia Magazine backstage]; pp. 41–43

The Dragonia Magazine is a monthly free e-zine published since 2006. It is devoted to GNU/Linux and free software. Most of the issues were typeset with Scribus, one with InDesign but the latest are typeset with LATEX. We will show the abilities and restrictions of typesetting of a periodical of several dozen pages with Scribus, the reasons behind the migration to typesetting with LATEX and the results — or what was gained and what was lost.

JACEK KMIECIK, Dostosowanie LATEX-a do konkretnych potrzeb [The tuning of LATEX to one's purposes]; pp. 44–52

A few of the simplest ways for tuning the canonical LATEX macros to one's own typographical requirements will be presented.

JONATHAN KEW, TEXworks: obniżenie progu dostępności [TEXworks: Lowering the barrier to entry]; pp. 53–59

Published in *TUGboat* 29:3.

GRZEGORZ MURZYNOWSKI, Styl bibliograficzny pl64.bst [A bibliography style: 'pl64.bst']; pp. 59–60

I generated the `pl64n` BIBTEX bibliography style ('n' for `natbib`) with `makebst` and then fine tuned some details by hand to make the style as compliant

with the spirit of Polish standards as possible, making my own choices where not determined by the standards or not available with `makebst`.

Grzegorz Murzynowski, O składaniu listów E. Szarzyńskiego trojako: estetycznie, XƎTEX-owo, troszkę hackersko [Threefold on typesetting of E. Szarzyński's letters: æsthetic-, XƎTEX-, and a little hacker-wise]; pp. 61–66

The "102 listy" by E. Szarzyński is a series of letters which he wrote to himself just before committing suicide. Fairy tales on colorful papers with calligraphic handwriting have been bound into a book which by being richly adorned reminds one of medieval incunabula. Preparing it for print we decided on one color (black) ink and instead of reproducing the adornments to provide their descriptions which gives our edition a rather conceptual character.

I intend to report on fonts we used and typographical conventions which aim at a clear separation of the editorial level, which describes the original, from Szarzyński's text, at the same time trying to reflect the conventions used by the author.

The engine I am using since at least half a year is XƎTEX, currently at version 0.997. I am using the availability of the system OpenType fonts, the possibilities to easily declare the features available through fontspec and the new conveniences offered by XƎTEX like the pseudo-feature "slant". I will describe how XƎTEX serves the æsthetic of a book.

I intend to give the audience a few words on the basic typesetting parameters, such as `\tolerance` and `\emergencystretch` in the context of their role for the appearance of the work.

If time allows, I will present a few tricks, such as typesetting of a fragment longer than a page in such a way that all "t" characters are typeset as crosses (as in Szarzyński's original).

Jean-Michel Hufflen, XSLT 2.0 vs. XSLT 1.0; pp. 67–77

This article focuses on the new features introduced by version 2.0 of XSLT, the language of transformations used for XML texts. We show why these new features — groups of XML subtrees, functions, interface with schemas — ease the development of some applications. Some examples, related to bibliography management, will be demonstrated.

Marcin Woliński, bayerancki – mój pierwszy font [bayerancki — my first font]; p. 78

The subject of this talk is my first attempt at creating a font. The font is named "bayerancki" and is (loosely) based on Herbert Bayer's "Universal" from 1925. The font has been prepared with MetaType1.

Reinhard Kotucha, Siep Kroonenberg, and Norbert Preining, Nowy instalator dla TEX Live [A new installer for TEX Live]; pp. 79–81

TEX Live has a new package infrastructure, primarily developed by Norbert Preining, and inspired by the Debian/Linux packaging system.

We shall present a new TEX Live installer, based on the new package infrastructure. It includes a text based as well a graphical user interface. Among other new features, installing TEX Live from the internet is now possible. It should work on all platforms supported by TEX Live.

Jean-Michel Hufflen, Jeszcze raz o porządku leksykograficznym wg. osób [Revisiting lexicographic order relations on personal names]; pp. 82–90

Published in *TUGboat* 29:1 as "Managing order relations in MlBIBTEX".

Grzegorz Murzynowski, Warsztat: Krótki kurs niepowtarzania się, czyli: Napisz klasę lub pakiet. [A short course in "Don't Repeat Yourself" or "Write a class or package"]; pp. 91–95

We will elaborate on what Marcin [Woliński] mentions rather than describes in the MWCLS documentation, i.e., we will demonstrate the writing of our own document class based on MWCLS or on standard classes:
- the required commands
- loading of the base class (`\LoadClass`)
- loading of the desired packages (`\RequirePackage`)
- declaring of options and passing them to the base class and packages (`\DeclareOption`, `\PassOptionsToPackage/Class`)
- if time allows, options of the key-value form

Documenting the class at write-time (literate programming) with the gmdoc package:
- where to put the class written and what should be done for TEX to see it.
- what are the 'at' signs, `\edef` and other basic TEX commands for; or *The TEXbook* and the LATEX source as enlightening.
- See how others do it or read the `.dtx` instead of the `.cls` and `.sty` files.

Placing macros in the package:
- the difference between a package and a class
- when to write a package and when a class.

Why so? The DRY rule (Don't Repeat Yourself (Twice Is Too Much)).

Hans Hagen, OpenType: zbyt otwarty? [OpenType: Too open?]; pp. 96–98

One advantage of the need to provide support for the fonts that are used in the Oriental TEX project

(the primary funding project of LuaTeX code development) is that we need to support OpenType fonts with more than average features in ConTeXt (needed by Oriental TeX). In this talk I will reflect on the possible use, abuse and/or misuse of OpenType fonts, the complications in implementing the standard(s), and the consequence for TeX users.

Hans Hagen, Biblioteka MetaPost [The MetaPost Library]; pp. 99–113
    Published in *TUGboat* 28:3.

Hans Hagen and Taco Hoekwater, Lua z TeX-em i ConTeXt-em [The luafication of TeX and ConTeXt]; pp. 114–123
    Published in *TUGboat* 29:2.

Hans Hagen, Taco Hoekwater, and Volker rw Schaa, Font Euler na nowo: wspólpraca z Hermanem Zapfem [Reshaping Euler: A collaboration with Hermann Zapf]; pp. 124–128
    Published in *TUGboat* 29:2.

Jean-Michel Hufflen, TeX-owe narzędzia składu dla języków Dalekiego Wschodu [Asian TeX-like typesetting engines]; pp. 129–131
    In order to extend MlBibTeX to languages of the Far East, we are experimenting with TeX engines for them—e.g., pTeX—after attending the first Asian TeX conference. We give a demonstration of that.

Paweł Jackowski, TeX: śliczności i dziwności [TeX: Beauties and oddities]; pp. 140–144
    See the TeX Pearls web page: `http://www.gust.org.pl/projects/pearls`.

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Ulrik Vieth, Matematyka OpenType iluminowana [OpenType Math Illuminated]; pp. 7–16
    Published in *TUGboat* 30:1.

Jean-Michel Hufflen, Wprowadzenie do XQuery [Introduction to XQuery]; pp. 17—25
    XQuery is a query language for data stored in XML form. It can be used to search such documents and arrange the result, as an XML structure or simple text (possibly suitable for a TeX engine). Like XSLT 2.0, it is based on XPath 2.0. We propose an introduction to XQuery, and some comparisons with XSLT to allow readers to discern the applications for which XQuery is suitable.

Jean-Michel Hufflen, Jak jest zorganizowana dokumentacja MlBibTeXa [How MlBibTeX's documentation is organised]; pp. 26–30
    MlBibTeX's documentation is planned to be multilingual—that is, written in several languages—

and to be able to share as many examples as possible. Different people can write translations of the orginal English documentation in parallel. In addition, we show how the translations of this documentation can be updated if need be. This documentation can be used as printed text or an on-line document. The features for managing this documentation can be reused for other programs. In a first part, we explain our requirements in detail. Then we show how they are implemented.

Marek Ryćko, Projektowanie programowalnych aspektów oprogramowania typograficznego [Designing programmable aspects of typographic software]; pp. 31–33
    It has been 32 years from the time when Donald Knuth started to design and write a typographic system, consisting of a program for computer typesetting, and a program for creating character shapes. Those programs are still in use now and a lot of effort is put into creating their contemporary versions.
    One of the recent achievements in programming in the typographic area is a new version of the MetaPost program, for creating vector graphics. The effort went into separating the program code into a library, called MPlib, and a small program, MetaPost, that uses this library.
    In the talk I plan to look closely at the current implementation of MPlib (version 1.110) from the software designer point of view. I will show, in a step-by-step style, a possible way of thinking in designing a new program, that will include a functionality of MetaPost/MPlib, but will be created using programming techniques and tools that were not available 32 years ago. The design will be object-oriented and based on a very high-level programming language.
    The result of the design process, carried on in the presented way, will be transparent program code, easily understandable, extendable, and easy to use as a part of other programs and systems.

Philip Taylor, Preprocesor parshape [A Parshape Pre-processor]; pp. 34–36
    \parshape is a powerful but potentially verbose primitive that provides the hooks necessary for wrapping text around graphics or other figures. When the outline of the inserted figure is rectangular, considerable simplification can be accomplished by providing a \parshape pre-processor in TeX.

Jean-Michel Hufflen, Skład wielokierunkowy w XSL-FO [Multi-directional typesetting in XSL-FO]; pp. 37–40
    XSL-FO is an XML format that aims to describe high-quality print output. This article complements the introduction to XSL-FO given at EuroBachoTeX

2007. We show how XSL-FO allows users to typeset texts belonging to different writing systems: from left to right, from right to left, etc. We compare this implementation to TeX-like typesetting engines, e.g., TeX--XeT.

Ryszard Kubiak, Tworzenie dokumentacji oprogramowania dla użytkowników w LaTeXu i Hyperlatexu [Creating software documentation for users with LaTeX and Hyperlatex]; pp. 41–46

A LaTeX-based notation is shown in the article as a language for writing source versions of software manuals for its users. Books or brochures as PDF files can be prepared simply by using TeX and their HTML version can be generated from the same source files by calling Hyperlatex from the Emacs editor. The author describes his experience in using this technology.

Chris Rowley, Składanie poza \box-em: zaczyn dyskusji [Typesetting outside the \box: A discussion item]; pp. 47–49

There are a some fundamental problems in basing the future of high-quality, highly-automated typographic software on extending the monolithic and programmatic paradigm of current TeX-related software developments.

It is therefore time to take seriously other paradigms and strategically different software architecture, moving on to a development path that will attract and exploit both the typographic and programming expertise of TeX gurus and also other sources of high-quality software design for document processing.

Paweł Jackowski, TeX: śliczności i dziwności [TeX: Beauties and oddities]; pp. 59–65

See the TeX Pearls web page: `http://www.gust.org.pl/projects/pearls`.

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