

# Zpravodaj Československého sdružení uživatelů TeXu

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CSTUG editorial board  
Abstracts without Papers

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## Abstracts without Papers

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### **Taco Hoekwater: Metapost Development**

Metapost 2.000 is planned for release in the summer of 2010. This presentation is a short report on the current status of the development. Metapost version 1.500 will (hopefully) be ready just in time for BachoT<sub>E</sub>X 2010, and in that release all memory arrays will have been replaced by dynamic memory allocation. A followup in the evening program highlights some of the ugly details.

### **Taco Hoekwater: Lua for Beginners**

A tutorial that explains the basics of Lua programming and demonstrates some ways it can be used within documents.

### **Taco Hoekwater: Lua for Font Lovers**

A tutorial that explains how the LuaT<sub>E</sub>X fontloader library works, and shows various font tricks you can do by using Lua code.

### **Taco Hoekwater:**

#### **Escrito – A PostScript-compatible Interpreter in Lua**

Escrito is the name of an interpreter for the PostScript language written in pure Lua code. Its default output device generates Portable Document Format (PDF) operators, making it ideally suitable for handling PostScript code within LuaT<sub>E</sub>X.

Using a little bit of Lua glue code, it will become possible to do the following things in LuaT<sub>E</sub>X that were previously only doable via complex workarounds:

- \* Include EPS images without the need for an external conversion process.
- \* Support the PSTricks macro package.
- \* Run Kees van der Laan's PostScript programs in-line.

### **Taco Hoekwater: [tlcontrib.metatex.org](http://tlcontrib.metatex.org)**

TL Contrib is a repository for packages and package updates that for various reasons cannot be in T<sub>E</sub>X Live itself. Think of packages that not quite free software according to the debian guidelines (for example packages that prohibit changes or come without sources), packages that prohibit commercial resale (the T<sub>E</sub>X Live DVDs are sold by Lehmanns), and updates for binary packages that actually are in T<sub>E</sub>X Live. The TL Contrib repository can be used with tlmgr to install such packages, and of course it is possible for authors to register their packages in it.

### **Mojca Miklavc: ConT<sub>E</sub>Xt Minimals, “Server Edition”**

The idea is to release clean code by the time of conference that would enable anyone to set up his own mirror for ConT<sub>E</sub>Xt distribution and thus increase its bus factor in case that Mojca goes to long vacations or becomes too inspired by her research work.

### **Mojca Miklavc and Hans Hagen: The Database Module, MkIV Version**

As Hans promised Mojca to make a MkIV variant of the database module that she loves so dearly, an actually did it, this variant will be presented at the conference by Mojca and Hans.

### **David Březina: General Issues in Multi-script Typography**

An overview of the most common typographic issues in publications which involve two or more scripts with a horizontal reading direction (e.g. Latin, Indic, Arabic, Hebrew, etc.). The talk aims to explain the problems systematically from a partially-objective point of view and show some of the possible solutions.

### **Luigi Scarso: Modules\_mkiv**

Modules\_mkiv is an attempt to document context source code in an automatic fashion, and also a test for LuaT<sub>E</sub>X and ConT<sub>E</sub>Xt MkIV. All PDFs are made with ConT<sub>E</sub>Xt MkIV and LuaT<sub>E</sub>X, see

<http://foundry.supelec.fr/gf/project/modules/>.

### **Hans Hagen: ConT<sub>E</sub>Xt Lua Documents**

For a while now we have the ConT<sub>E</sub>Xt user interface accessible at the Lua end. Although future releases will have an additional (and different) library, the current one is especially handy for users who are already familiar with ConT<sub>E</sub>Xt. The CLD interface is rather simple and can be quite powerful but it also has some limitations. All of this will be discussed.

### **Hans Hagen: Font Goodies**

The ability to have control over matters has always been one of T<sub>E</sub>X’s virtues. Operating beyond what fonts provide out of the box is an example of this. Fonts can have features that users turn on or off, but how to know what to apply when? And how about additional features? Do we want detailed control at the T<sub>E</sub>X end or can it be done more conveniently in Lua? Here I will introduce ‘font goodies’ as a way out. Don’t hesitate to share your wish list during this presentation.

### **Hans Hagen: Why Structure Matters**

There have always been lots of structure related commands in `CONTEXT`. In `MkIV` much of the low level code has been reimplemented with future extensibility in mind. This presentation will give an update of the status and a preview of the future.

### **Hans Hagen: How LuaTeX And ConTeXt Proceed**

As the development of `LuaTeX` and `CONTEXT` sort of go hand in hand there is an ongoing change in the code that makes up `CONTEXT`. Some of the changes and extensions are just proof of concept, others can will stay and can be used freely. In this presentation I will discuss the things that were done recently.

### **Hans Hagen: Whatever You Want to Know**

As usual there can and will be sessions where you can ask whatever you like about `CONTEXT`, the (probably mostly unknown) tools that come with it, how it is used or can be used, etc. Feel free to submit your questions in advance.

### **Hans Hagen: Requirements for Documentation**

`CONTEXT` evolved out of our own usage: educational documents and general documentation. This is why it is organized as it is. I will discuss a couple of characteristics and how they can help you to separate content from rendering issues. I will show some sources and styles of manuals that relate to context.

### **Hans Hagen: My Slowly Growing Test Suite**

It has become good practice that users post small examples on the mailing list when they run into problems or provide solutions. I also make small test files myself and for a while I've been collecting them. They are available to users and can also serve as showcases. In due time Luigi will add the output to the module collection that he maintains. I will give some demonstrations and we can discuss how to make more examples and how to organize them.

### **Hans Hagen: XML Processing News**

Part of the `MkIV` XML processing code has been rewritten. I will discuss and demonstrate a few of the new (and changed) features. (Maybe I can/will use the experimental `MkIV` `BIBTeX` code as an example.)

### **Hans Hagen: A ConTeXt Scoop**

Normally new features are put into the kernel when they get stable. However, I decided to keep the latest trick out till the conference so that those who attend get the first view of it. Let's see how long they can keep the secret.

**Patrick Gundlach:****Lua $\TeX$  without  $\TeX$  – or: the Hidden Beauty of  $\TeX$** 

With Lua $\TeX$  you can typeset text without having to deal with  $\TeX$ 's input language. This is great, because you don't need to take care of catcodes anymore, you don't have to `\relax` after dealing with complex macros, expansion is not an issue anymore. In this talk I will present how to typeset text just by using Lua( $\TeX$ )-functions and I will show some examples, such as the `\boxit` macro from the  $\TeX$ book and how this could be done in Lua. This presentation does not deal with  $\text{CON}\TeX\text{T}$  at all.

**Patrick Gundlach: contextgarden.net**

This is a question and answer session on the current state of `contextgarden.net`. This can be done in the evening when we have some tea or coffee.

**Alan Braslau: Drawing Chemical Structures Using ppch $\TeX$** 

Chemical formulas and chemical structures can be included in a  $\LaTeX$  or a  $\text{CON}\TeX\text{T}$  document easily using the ppch $\TeX$  macros. I present a simple introduction to their use.

This package has been completely re-written in MkIV (not by me!) and is now included in the core macros. The aim of this presentation is to stimulate discussion as some further development could be useful.

**Alan Braslau: Plotting Data with Metafun/Metapost**

Data can be graphically presented using the `METAPOST/graph` macros. I present here a simple introduction to their use in order to stimulate discussion on the interest of these macros and to explore alternative solutions including the possibilities to process numerical data through use of Lua $\TeX$ .

**Alan Braslau: Drawing Diagrams Using the Chart Module**

$\text{CON}\TeX\text{T}$  provides a `charts` module to create flow charts. This module could be extended to abstract positioning, somewhat akin to the drawing of tree diagrams, very easily performed using `TikZ`. Other examples of diagrams of arbitrary connected cells such as pneumatic or vacuum systems will be presented.

**Willi Egger: Arranging Pages for Printing**

Although e-readers are coming up it is still so, that typeset information very often will have to be printed on paper. In order to make a final product one

needs to arrange the contents in such a way, that after folding the product makes a professional impression. `CONTEX`T does not only do a great job by typesetting, it offers also solutions to create a final product which can directly be fed to a printer in the print house. In this session I will give an overview on the currently available imposition schemes with special emphasis on flyers in different presentations.

### **Wolfgang Schuster: The Letter Module**

Where i got inspiration for the implementation (`m-letter.tex` and `letterstyle.tex`)

- \* layer system of the module (from internals to user interface),
- \* the user interface,
- \* workshop how to create your own style.

### **Wolfgang Schuster: Module Documentation**

- \* Methods to document a module (in the code and as a separate document).
- \* How create your own command definitions (what you can see in `setup-en.pdf/cont-en.xml`).

### **Arthur Reutenauer: The Ever-regenerating Hydra – Hyphenation Patterns in Unicode, and beyond**

The `hyph-utf8` project was launched in the spring of 2008, as a means of rationalizing the situation of hyphenation patterns in `TEX` Live. Its goal at the time was to convert all the patterns to UTF-8 so that `XYTEX` and `LuaTEX` could use them directly, and to make them also available to non-Unicode-aware `TEX` engines by converting them on the fly, in order to keep backward compatibility. At that point, this effort was only useful to `LATEX`, because `CONTEX`T had been using its own copy of the patterns, but it ultimately benefited from `hyph-utf8` as well, as it could use it as the sole source for hyphenation patterns.

Since we started, the project's scope has far outgrown its original purpose: first, it was integrated in `MiKTEX` shortly after we began (while our target at the time was only `TEX` Live); and we also had the opportunity to add patterns for languages that we never had before, coming from different sources. In particular, several languages we added were, at best, extremely awkward to support in a non-Unicode environment, and we thus decided to support them only as UTF-8, in `XYTEX` and `LuaTEX`, without attempting to convert them to some 8-bit encoding. This approach will hopefully help the `TEX` community in supporting these languages better.

We also had the chance to work with other projects that use the same hyphenation algorithm as `TEX`: `OpenOffice`, for starters, whose relationship to `TEX`

is obvious, is the source for several of the “new” languages. There are also several implementations of the algorithm for Web browsers, with which we could exchange material: their primary source for patterns are always  $\text{T}_{\text{E}}\text{X}$  distributions, but they also received files from individual contributors; we thus added a couple more languages thanks to them. Another program that uses our patterns is Apache FOP (Formatting Object Processor), a document formatter driven by XSL-FO.

It is our hope that `hyph-utf8` can become a central source of material and information on word hyphenation for all projects that may need them.

### **Karel Horák: Do It Better...**

Collection of some mostly practical problems with solutions (often borrowed from other people’s ideas) which all have one thing in common: get efficiently any typesetting as good as possible.

### **Idris Samawi Hamid: Towards the First $\text{ConT}_{\text{E}}\text{Xt}$ Book**

Given the breadth of  $\text{CON}_{\text{T}}\text{E}_{\text{X}}\text{T}$ , and the growth of the  $\text{CON}_{\text{T}}\text{E}_{\text{X}}\text{T}$  community, the need for a polished book that introduces its scope and power has become ever more pressing. In this talk we intend to introduce an outline of this first major  $\text{CON}_{\text{T}}\text{E}_{\text{X}}\text{T}$  book project, and to get input and suggestions from the participants to help make it successful.

### **Idris Samawi Hamid: Oriental $\text{T}_{\text{E}}\text{X}$ Crosses the Rubicon. Advanced Qur’ānic Typesetting in $\text{MkIV}$**

After years of research, the Oriental  $\text{T}_{\text{E}}\text{X}$  Project can proudly announce that it is closing in on the holy grail of paragraph-based Arabic typography. We illustrate this by demonstrating the typesetting of the Qur’ān in  $\text{LuaT}_{\text{E}}\text{X}$  and  $\text{CON}_{\text{T}}\text{E}_{\text{X}}\text{T}$   $\text{MkIV}$ . We also discuss some details of OpenType typesetting control in  $\text{MkIV}$  as well.