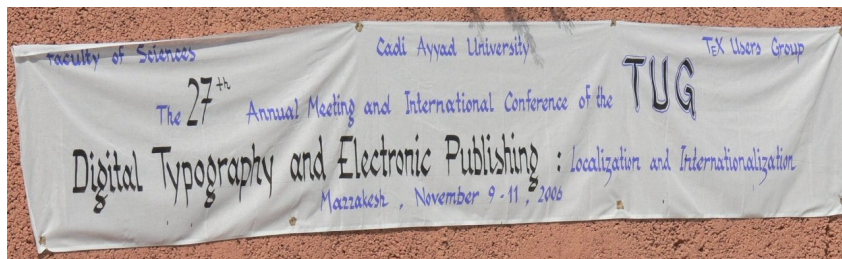


TUG 2006 Report

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Abstract

After TUG 2003 in America (Hawaii, USA), TUG 2004 in Europe (Xanthi, Greece), TUG 2005 in Asia (Wuhan, China), TUG 2006 was held in Africa, more precisely in Marrakesh. Processing multilingual e-documents went beyond the limits of its traditional cultural areas and new horizons in the internationalization of \TeX were explored.

Keywords: TUG 2006, Marrakesh, Arabic, international user meeting

Introduction

The \TeX User Group's 27th annual meeting and conference was organized in collaboration with the Computer Science Department of the Faculty of Sciences Semlalia, Cadi Ayyad University, located in Marrakesh, Morocco. About thirty talks were given over three days, starting on November 9th, 2006. The conference was attended by more than forty people from all over the world.

The main topic and subtitle of the conference was: 'Digital Typography & Electronic Publishing: Localization & Internationalization'. It follows that there was a large focus on Arabic typography, but even so, a number of interesting presentations on altogether different subjects were given. A short day by day overview follows.

Wednesday November 8, arrival

Hans Hagen and I arrived (together with a few other people) at the airport of Marrakesh late in the morning, where we were picked up and chauffeur-driven to our hotel. Luckily, the hotel was only a few hundred meters away from the conference location, but that did not stop us from taking more than an hour to walk over there.

There was no official program for this day, but because many of the international attendants arrived in the morning and early afternoon, the local organization had thoughtfully scheduled a tour of Marrakesh city by (open) double-decker bus. As luck would have it, during this tour we had the only rainfall of the entire week, so we all got wet and had to hurry inside the bus. But from then on, we had a steady plus 20 degrees Celsius and lots of sunshine, so no complaints about the weather.

Thursday November 9, day 1

The day started early, with the official welcoming speeches starting at half past eight. We were wel-



comed by Boumedine Tanouti of UCAM (the university itself) and Mohssine Belkoura from FSSM (the hosting faculty), and of course by TUG.

The first talk of the day was by Thomas Feuerstack and Klaus Höppner, who presented "Pro \TeX t, a complete \TeX system for beginners". Most Windows-using readers will have seen the Pro \TeX t disk in previous years' \TeX Collection. The very easy to install and use \TeX system based on MiK \TeX and \TeX nicCenter will of course also be included this year. They are still looking for a Dutch translator for the installation manual, so if you want to help them out, please send me a message.

Next was my presentation of the new developments for the upcoming MetaPost release. The most important news is that MetaPost can now do font re-encoding and subsetting. You can read about that in the previous (Euro \TeX) issue of *TUGboat*.

Jean-Michel Hufflen talked about the use of person names in his program MIBIB \TeX versus the traditional BIB \TeX . MIBIB \TeX ('MI' stands for 'Multilingual') features much improved input and handling of people's names. His quite colorful slides demonstrated a number of problematic names along with their usage in MIBIB \TeX .



Hans Hagen, OpenMath

The other two Dutch people present were Renée van Roode and Gerben Wierda, and together they talked about ‘TeX Live—Life with TeX’. Renée gave a very nice overview of the past six years that Gerben has been working on the i-Installer and i-Packages for gwTeX. After that, Gerben took over with a more technical explanation of what the i-Installer does. It came as bit of a shock to most of us that the last slide was titled ‘I Quit’. Other people will continue to work on TeX for Mac OS X, but Gerben will be sorely missed.

Moroccan lunches are not be taken lightly. Or perhaps I should say: Moroccan lunches cannot be taken in lightly. The food was excellent all through the conference, and especially so the lunches. These were served in a restaurant that was situated behind an unadorned garden door in a residential street. Considering the outstanding quality (and quantity) of the food served there, it is no surprise that they keep it a well guarded secret!

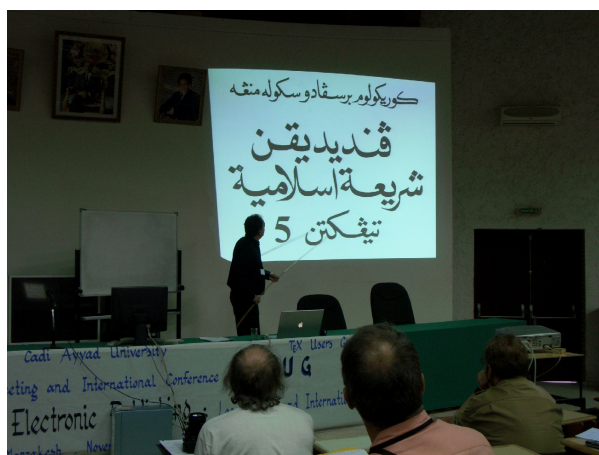
The afternoon program began with Hans Hagen telling everybody about the Mathadore project. The Dutch Mathadore project uses OpenMath to provide courseware for secondary education, and this content is typeset by ConTeXt after an intermediate conversion to MathML using an XSLT script that is part of the ConTeXt distribution.

Next up, Jerzy Ludwiczowski talked about how Copernicus University in Toruń uses TeX to handle the admission forms for students. These legal documents are generated automatically from the base data in the administrative system, handling tens of thousands of admissions each year, with a minimum of effort.

The last talk of the day was Zdeněk Wagner: Babel speaks Hindi. The presentation described how



The Souks



Yannis Haralambous

the Babel module for Hindi was made, and it showed some of the problems associated with typesetting Hindi. For instance, in this script letters are re-ordered in the output, creating the need for a pre-processor to facilitate the input.

In the evening, there followed another visit to the old city of Marrakesh. We did a walk through the Souks, and returned to the hotel by means of horse and carriage.

Friday November 10, day 2

Friday was completely focused on Arabic typography. The first talk was by Yannis Haralambous. His talk, ‘Infrastructure for high-quality Arabic typesetting’ kicked off the day by unveiling the plans for Arabic typesetting support in the coming Ω_2 . He showed us the planned data structure and the algorithmic steps that will be used to produce high quality output in a large number of different languages that use the Arabic script.

Youssef Jabri then talked about ‘The Arabi system—TeX writes in Arabic and Farsi’. Arabi is a

newly arrived package that provides Arabic script support for \LaTeX without the need for an external preprocessor or a special \TeX extension. It adds support for the Arabic and Farsi languages to Babel, it comes with a set of suitable fonts, and it understands a number of different input encodings. Support for Tifinagh, Syriac and even Urdu is planned for the near future.

Karel Píška demonstrated some interesting techniques that can be used to improve existing font technologies. The focus of ‘Outline font extensions for Arabic typesetting’ was on using a dynamic representation of the glyph shape so as to allow runtime generation of curvilinear kashida connections instead of the rule-based fillers that are common today.

After the break, Hossam Fahmy introduced us to his system that aims at typesetting the Qur’an: AlQalam (“the pen” in Arabic). The system evolved out of modifications to Arab \TeX . Much work is still needed, especially in the area of fonts, but also when it comes to low-level support from the typesetting program. Nevertheless, the intermediate results are already quite impressive.

Have you ever felt the need to key in \LaTeX commands in your native language? Well, if you are speaking Arabic, now you can! Mustapha Eddahibi presented ‘Dad \TeX — A full Arabic interface’. This project makes it possible for Arabic-speaking people who are not familiar with the English language to use \LaTeX . This project also involves Azzeddine Lazrek and Khalid Sami from UCAM.

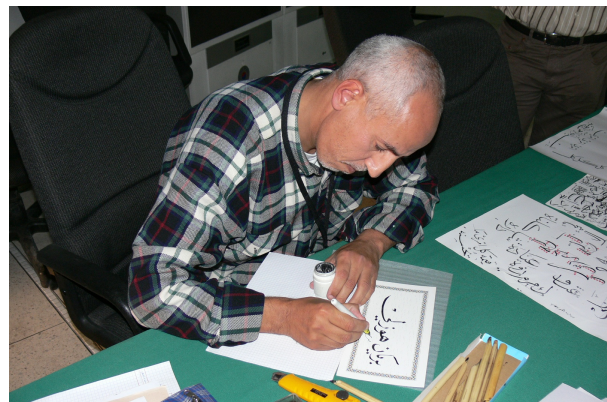
Next in line was Taco Hoekwater, acting as stand-in for Idris Hamid. He summarized the Oriental \TeX project, its objectives and time-line. He also explained the relationship between this project, which is sponsored by Colorado State University (USA), and the pdf \TeX successor Lua \TeX , as well as upcoming MetaPost versions.

After yet another impressive lunch, Jonathan Kew demonstrated some of the multi-lingual capabilities of X \TeX . Besides a set of ‘prepared earlier’ slides, he also gave an impressive live demonstration. The second part of his talk was all about the growing Unicode math support in X \TeX . This will no longer need special \TeX fonts but is now able to use the new Unicode support found in the latest OpenType fonts.

Mohamed Elyaakoubi presented research on the justification of Arabic text. Hyphenation of words has been forbidden in Arabic for centuries. Various other methods of justification are used instead, like stretching intermediate connectors between letters and the use of an elaborate system of ligatures and



Jonathan Kew



Mohamed Benatia, calligraphing participants’ names

alternative letter forms. The paper corresponding to this talk was a joint effort with Azzeddine Lazrek and the calligrapher Mohamed Benatia, who kindly calligraphed the phonetic representation of all of our names in Arabic.

Officially, this was to have been the last talk of the day, but to kick off the round table discussion that followed, Yannis Haralambous presented a set of slides showing all the various languages that use Arabic script and the enormous amount of variation that can be found therein. After that, the round table discussion followed. This was attended by a fair number of local students as well as \TeX -ies.

Saturday November 11, day 3

Claudio Beccari began the final day of talks, talking about the use of `pict2e`, a fairly recent addition to the \LaTeX repertoire of drawing packages. The focus was on how you can use complex numbers to simplify drawing.

\LaTeX 3, and especially page design, was highlighted by Morten Høgholm. Because he received

many general questions in preceding days, he also explained quite a bit about the project infrastructure and the internals of the upcoming L^AT_EX₃. Although there is still no release date, but the code is ready enough that interested people are requested to beta-test the new system.

After the coffee break, there was a session on fonts. It started with Jerzy Ludwiczowski who presented the T_EX Gyre font project.

Macintosh users can be proud of the fact that the i-Installer already has support for the first three font families that came out of this project, because in the next slot, Gerben actually built the required i-Packages as a demonstration of how to use i-Installer ‘from the other side’.

At this point, a presentation was squeezed in. Yannis Haralambous made a brave attempt to replace Apostolos Syropoulos based on his slides entitled ‘L^AT_EX as a tool for the typographic reproduction of ancient texts’. For a large number of ancient scripts, this talk explained some of the problems related to the script and how well it can be typeset using current L^AT_EX. Yannis worked hard to compensate the missing author by showing examples he had found of the scripts in question.

For ‘Everything we want to know about modern font technologies’, Chris Rowley turned his presentation into a panel session, made possible by the presence of many font experts. He had prepared some questions and after discussing them briefly, a lively discussion followed. Among the topics discussed were the fundamental differences between the typesetting of Western scripts (by pasting together glyphs) and the Arabic script which is still strongly rooted in the calligraphic world, something not trivial to do with computers. The discussion ended with musings about the potential of using MetaPost as an integral part of T_EX, enabling the use of dynamically generated fonts.

Hurray, after that it was time for lunch again! Following that, Elena Smirnova talked to us about generating T_EX from mathematical content while honoring notational preferences. To this end, they convert from an extended form of Content MathML to Presentation MathML or T_EX input, using a specific notation style that can be selected by the user using a simple GUI interface. The conversion application itself is controlled by an XML-based catalog of possible presentations and conversions.

‘DVI2SVG: Using L^AT_EX layout on the web’ was presented by Adrian Frischauf. He convincingly demonstrated that you can create really good looking math in web pages by converting the T_EX-generated DVI file into SVG, and then serving the SVG to the



One of the many fantastic lunches.

web browser. The biggest (perhaps only) drawback of this approach is that right now, it needs a separate plug-in to be installed in order to view the page. The built-in support inside web browsers is not yet good enough to handle complex text native.

Hans Hagen talked about the impact of Lua-T_EX on ConT_EXt. He gave an overview of the status quo of the LuaT_EX project and gave some examples of how and where Lua comes into play.

After the coffee break and the traditional group photograph, the final session started with a continuation of Gyöngyi Bujdosó’s talk from EuroT_EX 2006. ‘T_EX, typography & art together’ focused on the typographical side of a T_EX- and typographical e-learning system that is being developed in Hungary. This second half of the system revolves around a database containing typefaces, paintings, page layouts, and information about their designers.

More than twenty-five years of *TUGboat* history were summarized by Barbara Beeton in the final presentation of TUG 2006. Barbara presented a large number of examples that were scanned in from previous volumes as an aid in explaining how the current layout came to be.

Several talks had dealt with the more trendy ways of coding (XML) and presenting math (web, dynamic, right-left). In the final discussion Stephen Watt challenged the audience to come up with visions and requests concerning coding and representing math as well as current and future demands of accessing math on the web. Being a member of the forums that discuss these items in relation to standards, the author triggered discussion and also invited the audience to bombard him with emails regarding the subject.

That night was the banquet, held at a special place called ‘Chez Ali’. After dinner, a special performance was held in the center courtyard of the



complex. At the end of that there were fireworks and a ritual burning of the T_EX Users Group logo!

Sunday November 12, excursion and closing

Even though the last talk was on Saturday, almost everybody stayed around for the excursion to Essaouira on Sunday. Perhaps in part because the ban-

quet was the night before, so that is a trick worth remembering. After the crowded and metropolitan Marrakesh, it was nice to see a town that was perhaps just as commercial, but much, much smaller in scale.

When we got back to the hotel in the evening, the time had come to officially close the conference. Many words of thanks were spoken there already, but let me repeat again: a big thank you to the local organization and especially Azzeddine Lazrek. It has been a great TUG conference!

(A sampling of conference photos are below, courtesy of Hartmut Henkel and Volker Schaa. Many more are at <http://be1.gsi.de/tug2006/>. Ed.)



Back row: Yannis Haralambous, Arthur Reutenauer, Hartmut Henkel, Mustapha Eddahibi, Jon Riding, local participant, Sigitas Tolusis, Vytas Statulevicius, Adrian Frischauf.

Second from back row: Hans Hagen, Steffen Kernstock, Morten Høgholm, Chris Rowley, Karel Píška, local participant, Steve Grathwohl, Jerzy Ludwichowski, Khalid Sami, Thomas Feuerstack, Klaus Höppner.

Second from front row: Claudio Beccari, Taco Hoekwater, Ina Talandiene, Nelson H.F. Beebe, Brian Housley, Jonathan Kew, Jean-Michel Hufflen, Reinhard Kotucha, Hossam Fahmy.

Front row: Youssef Jabri, Zdeněk Wagner, Stephen Watt, Elena Smirnova, Barbara Beeton, Mohamed Elyaakoubi, Gyöngyi Bujdosó, Azzeddine Lazrek.



Other participants not in the group photo: Volker RW Schaa (first in back row), Robin Laakso (last in front row), Marc Dehon, Mohamed Jamal Eddine Benatia.



Conversing after another fabulous lunch.



Official opening: Khalid Sami (organizing committee), Barbara Beeton (TUG), Boumedine Tanouti (UCAM vice-president), Mohssine Belkoura (FSSM Vice-doyen), and Azzeddine Lazrek (conference chair).



Double-decker bus tour on arrival day.



Jemaa el-Fna, guided tour of the old city.



Excursion to Essaouira, on the coast.



Closing remarks and thank-yous to all.