Omega: an extension of the TeX System

Thursday March 16th 1995

CERN, Geneva, Switzerland

The TeX program was originally developed in the mid seventies by Donald Knuth to typeset mathematical texts in the English language. Since then TeX has made inroads in broader and broader areas of scientific, literary and other scholarly activities in many countries around the world. In 1991, Knuth froze TeX, in the interest of stability, among other reasons. However, he allows the TeX code to be used as the basis for further developments, so long as the resulting system is distributed under a different name.

Ω is an extension of TeX developed by John Plaice (Université Laval, Canada) and Yannis Haralambous (Lille, France). Its first release, currently under beta-test, aims primarily at improving TeX's multilingual abilities.

On Thursday, March 16th, 1995, Ω, the first generally available extended version of TeX, will be presented to the world at CERN (Geneva, Switzerland). In Ω all characters and pointers into data-structures are 16-bit wide, instead of 8-bit, thereby eliminating many of the trivial limitations of TeX. Ω also allows multiple input and output character sets, and uses programmable filters to translate from one to the other. Internally, Ω uses the universal 16-bit Unicode standard character set. These improvements will not only make it a lot easier for TeX users to cope with multiple or complex languages (e.g., Khmer, Arab, Indic, Chinese, Japanese) in one document, but will also form the basis for future developments in other areas, such as native color support and hypertext features.

The standard distribution of Ω also includes the Unicode TeX encoding, a new standard font encoding that is a superset of Unicode for — at this moment — the Latin, Greek, Cyrillic and Arabic character sets. The first font using this encoding, Universal Computer Modern, is based on existing METAFONT code prepared by different national TeX users' groups. The UCM font is built using the Virtual METAFONT mechanism, which ensures that users can use the alphabets that they need without having to manipulate huge files.

The presentations on the 16th of March will take place in the CN Amphitheatre (Bld. 31, 3rd Floor). They will start with a general introduction of the Ω system, explaining how it is or can be implemented on various computer platforms. Then, the presentation of examples of high quality typography will show how the use of the Unicode/ISO 10646 character code makes it easier to handle a complete set of Cyrillic, Latin, Greek, Arab, Hebrew, and other characters in one document. At the end of the day a round-table discussion will allow the participants to provide input to the Ω team about which features they would like to see improved or added to the system. All participants will obtain a free copy of the software to take home with them. More technical discussions between implementors can be organized for the next day.

This day is sponsored by GUTenberg, the TeX local user group of the French speaking community. Other sponsors would be much appreciated since we would like to invite as many representatives from different LUGs and language communities as possible to let everyone benefit from the posibilities of this new system for typesetting complex languages. Please contact Michel Goossens (address below) for more details.

Information about Ω can be found in the Proceedings of the 1994 TUG Conference, *TUGboat* 15,(3). Contact TUG at `tug@tug.org` for ordering these (over 240 page) proceedings if you are not (yet) a member of TUG. A somewhat updated version of the same material appeared in the Proceedings of the 8th European TeX Conference in Gdansk.

To register for the Ω day, or to receive further details, contact:

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