Five years after: Report on international \TeX\ font projects

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Abstract

Two large font projects are being currently developed by the \TeX\ user groups:  
Latin Modern (begun in 2002) and \TeX\ Gyre. Both aim at greatly increasing the  
number of diacritical characters in the freely available collections of fonts.

1 Introduction

Since nearly the very beginning of their existence, Adobe’s products have been accompanied with a basic collection of fonts, first containing only 13 components, then extended to 35: ITC Avant Garde Gothic (4 fonts), ITC Bookman (4 fonts), Courier (4 fonts), Helvetica (8 fonts), New Century Schoolbook (4 fonts), Palatino (4 fonts), Times (4 fonts), ITC Zapf Chancery Medium (1 font, italic), Symbol (1 font), and ITC Zapf Dingbats (1 font). Of course, they were only available under proprietary licenses.

The situation changed in 1996, when L. Peter Deutsch, then the developer and maintainer of the marvelous free PostScript interpreter Ghostscript, released in conjunction with UR W++ a free collection of PostScript fonts, being a reasonable replacement for Adobe’s 35 (see http://tug.org/fonts/deutsch-urw.txt).

Within a few years the collection was enhanced with Vietnamese and Cyrillic characters (by Hàn Thế Thành and Valek Filippov, respectively). Still, the repertoire of glyphs present in the fonts was insufficient to meet the needs of those who have to typeset in Latin-based languages.

2 The Latin Modern project

In Spring 2002 (hence the present title), several \TeX\ user groups launched the Latin Modern Project, with the aim of extending the Computer Modern fonts with a rich repertoire of Latin diacritical characters. This resulted in the Latin Modern collection of 92 fonts (72 text and 20 math) in the PostScript Type 1 and OpenType formats, (http://www.gust.org.pl/projects/e-foundry/latin-modern).

The warm reception of the project (despite various slips, though significantly reduced in number thanks to Karel Piška’s continued efforts — see, e.g., his article in these proceedings) encouraged the user groups to make use of the Latin Modern experience to enhance the 35 basic PostScript fonts.

3 The \TeX\ Gyre project

Already in 1996, immediately after the release of the Ghostscript/UR W++ fonts, the Polish \TeX\ users group, GUST, launched the Qfonts project, aimed at supplementing the relevant text fonts from the collection with a set of diacritical characters. The project was suspended after releasing a few fonts — other challenges became more important. However, with the success of the Latin Modern project, the groups supporting it decided to resume the Qfonts project, and indeed, greatly broaden its scope. The new incarnation became known as \TeX\ Gyre.

4 Licensing issues

Neither Adobe’s nor UR W++’s font names could be retained, due to legal issues. Therefore we have coined alternative names as follows:

<table>
<thead>
<tr>
<th>Origin</th>
<th>PS name</th>
<th>TFM name (kernel)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITC Avant Garde Gothic</td>
<td>TeXGyreAdventor</td>
<td>qag</td>
</tr>
<tr>
<td>ITC Bookman</td>
<td>TeXGyreBonum</td>
<td>qbk</td>
</tr>
<tr>
<td>Courier</td>
<td>TeXGyreCursor</td>
<td>qcr</td>
</tr>
<tr>
<td>Helvetica</td>
<td>TeXGyreHeros</td>
<td>qhv</td>
</tr>
<tr>
<td>Palatino</td>
<td>TeXGyrePagella</td>
<td>qpl</td>
</tr>
<tr>
<td>Times</td>
<td>TeXGyreTermes</td>
<td>qtm</td>
</tr>
<tr>
<td>New Century Schoolbook</td>
<td>TeXGyreSchola</td>
<td>qcs</td>
</tr>
<tr>
<td>ITC Zapf Chancery</td>
<td>TeXGyreChorus</td>
<td>qzc</td>
</tr>
</tbody>
</table>

1 Actually, four URW++ free fonts appeared for the first time in Ghostscript 2.6.1 in 1993.

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(Note that the TFM names are, in a way, the legacy of the Qfonts project.)

Some licensing issues are unsolved. For example, it remains an open question whether the TEx Gyre fonts can be released under the GUST Font License (GFL), a legal equivalent of the IpeX Project Public License (LPPL) — see http://www.gust.org.pl/projects/fonts/licenses/ and http://www.latex-project.org/lppl/.

The user groups are attempting to negotiate an agreement with the donor of the fonts, URW++.

5 The TEx Gyre fonts

As of this writing, all 33 text fonts from the basic 35 fonts have been released (http://www.gust.org.pl/projects/e-foundry/tex-gyre/). Each contains nearly 1200 glyphs, including small caps, old style figures, Cyrillic and Greek. An exception is TEx Gyre Chorus alias Zapf Chancery, which lacks Greek and small caps; incidentally, using capital forms of Chancery characters for typesetting whole words should be forbidden by law.

Note, however, that Cyrillic and Greek characters were included only provisionally (for the sake of uniformity and backward compatibility) and their quality must be improved as soon as possible. Only in TEx Gyre Bonum (Bookman) is the Greek of better quality: with the kind permission of Apostolos Syropoulos and Antonis Tsolomitis, we imported the Greek glyphs from the Kerksis collection (http://iris.math.aegean.gr/kerksis/).

All fonts are available in OpenType and PostScript Type 1 formats. Of course, TEx-oriented add-ons, that is, TFM files for various encodings plus the relevant MAP and ENC files, plus TEx support, are also provided. At present, the following encodings are available: CS (CSTUG), EC (Cork), LTX (Lithuanian), QX (GUST), RM (Regular Math or OT1), LY1 (Y&Y aka TEx’n ANSI), T5 (Vietnamese), TS1 (Text Companion for EC fonts) T2A, T2B, T2C (Cyrillic). The TEx Gyre support for ConTExt is shipped separately with the ConTExt package.

Below are samples of the available fonts:

TEx Gyre Adventor is available in Regular, SMALL CAPS, Bold, Oblique, and Bold Oblique variants.

abcede ABCDE 0123456789 0123456789 abcde ABCDE 0123456789 0123456789

TEx Gyre Bonum is available in Regular, SMALL CAPS, Bold, Italic, and Bold Italic variants.

abcede ABCDE 0123456789 0123456789 abcde ABCDE 0123456789 0123456789

TEx Gyre Cursor is available in Regular, SMALL CAPS, Bold, Oblique, and Bold Oblique variants.

abcede ABCDE 0123456789 0123456789 abcde ABCDE 0123456789 0123456789

TEx Gyre Chorus is available only in the Medium Italic variant:

abcede ABCDE 0123456789 0123456789

6 Plans for the future

There is a lot to do: we plan to add the two remaining non-text fonts (for the sake of completeness), bugs reported so far have to be removed, Cyrillic and Greek are in need of improvement, kerning and hinting should be improved wherever needed, etc.

There are also much broader plans: to incorporate math into the TEx Gyre collection — a truly serious task. It implies including math information in OpenType fonts and this requires research.

No fear that the TEx Gyre spiral will ever reach its end...