

# Impression INRST $\TeX$ , and some more

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## 1 Prelude

Hi Michael,

Thank you very much for the INRST $\TeX$  materials: the soft bound syllabus and floppy with the system. At the moment I can't read these high-density floppies but I trust it contains the INRST $\TeX$  manual, while the syllabus reflects the reference book. I read the reference book and in order not to let my energy go into thin air, and feeling obliged to you, I decided to comment the manual and with your consent publish this 'Impression', adopted to MAPS style, in next NTG's MAPS.

Kees

## 2 Impression of INRST $\TeX$

INRST $\TeX$  is a macro collection on top of plain  $\TeX$  developed by Michael J. Ferguson. The version I received was dated 1986/4/8. So the most simple observation is that it does not reflect  $\TeX$  version  $\pi$ . INRST $\TeX$  has similar functionalities as  $\LaTeX$ . The reference book is quite elaborate on how to use INRST $\TeX$  and well-done. For inclusion of figures  $\TeX$ graph is used.  $\TeX$ graph is built upon the graphic primitives of the QMS laser printer. The latter approach is outdated because most people use nowadays encapsulated PostScript for that purpose. Moreover, other more recent graphic capabilities —like PiCT $\TeX$  or Capture— are not mentioned. The mentioning of similar work is in general lacking in the syllabus. The syllabus I read contained page 137 and 138 in wrong order.

With respect to  $\TeX$  and INRST $\TeX$  my general impression is that the syllabus is thorough and well-done. Personally, I would have liked references to the pages in the  $\TeX$ book to be included, for explanation of more details. Despite this positive impression I have the following critics, though.

### 2.1 Fonts

The fonts chapter needs adaptation with respect to: virtual fonts, font selection schemes, and `cmr` instead of `amr` usage.

### 2.2 Math

The math chapters can be improved by adapting the macroscopic and microscopic viewpoints: how is the math entity positioned within the surrounded text, and how are the math commands combined in order to obtain the entity proper. Furthermore, I would like the list of math symbols to be structured into the different symbol classes similar to the way it is done in appendix F of the  $\TeX$ book. I missed how to obtain correct sizing of newly created operators dependent upon the context of usage. Agreed the use of `\buildrel` is mentioned, but that is not enough. With respect to automatic equation numbering, I pity that parentheses around the equation number to be part of the copy and not a result of the used format. The `\smash` command is not accompanied by a (practical) example, nor is the empty formula concept introduced, which is sometimes handy in multi-line math alignments. Not to speak about the effect of a pair of braces around an operator. (Changing a formula class into class 0.) The hyphenation of long math formulas, and how to achieve that with (INRS) $\TeX$ , is not mentioned either.

### 2.3 Table making

For table making the complicated example on page 106/107 consists of one header row and two contents rows, with the header row substructured. The (INRS) $\TeX$  encoding needed something like 11 rows. An unnecessary and unwanted discrepancy between the (descriptive) structure and the  $\TeX$  encoding. Provide one headerrow, and two contents rows with the text in the first column appropriately placed in a `\vbox` with suitable `\hsize`, vertically centered for each row.<sup>1</sup>

### 2.4 $\TeX$ example book?

The publication made me curious with respect to the  $\TeX$  Example Book, which was alluded to, without a concrete reference. I'm also curious to the INRST $\TeX$

<sup>1</sup>In the Dedham preprints Michael Downes mentions Cowan's work —`tables.sty`— which has the unique feature that you don't have to type the preamble line setting up the format of the columns in the table. The format is determined automatically by the contents of the table! (Michael has used it for simple examples and it worked well. Interesting).

manual with all the macros listed and programming decisions explained. From the way the complicated example about table making was encoded, I expect the T<sub>E</sub>Xniques 2 issue: Table making - the INRST<sub>E</sub>X method, not structural simpler than plain's facilities, nor do I expect table encoding to be guided by the descriptive approach.

## 2.5 Bi-linguality

But, . . . the bi-lingual aspect, an issue Michael has paid attention to for so long a time, is a strong point, further elaborated in MLT<sub>E</sub>X.

## 3 Michael's comments

### 3.1 INRST<sub>E</sub>X

I have a brand new package with an updated Reference book. It now includes the graphics and is based on cm fonts rather than am. The font selection mechanisms of L<sub>A</sub>T<sub>E</sub>X are not terribly important because INRST<sub>E</sub>X font families, eg \tenpoint, . . . automatically choose the correct fonts for section headings, etc.

#### 3.1.1 Description

INRST<sub>E</sub>X is a complete document preparation package, including graphics for document preparation. It was designed from the beginning for use in a bi-lingual (French/English) environment. The system, excluding its graphics component, is usable with any T<sub>E</sub>X system but is most useful, when using ordinary 'cm' fonts with an MLT<sub>E</sub>X system. T<sub>E</sub>XGraph will work with any reasonable PostScript driver and has been specialized here to work with a modified modified version of Nelson Beebe's DVIALW on the IBM PC and uses Tom Rokiki's DVIPS on the UNIX workstations. The PC Version of the package includes an MSDOS version of the modified DVIALW.

The INRST<sub>E</sub>X macro package kernel is built on top of PLAIN. All the facilities of plain are left intact and available. Additional facilities are included for

- section and chapter heads,
- lists,
- easy tables,
- floating figure and table insertions,
- footnotes,
- automatic generation of table of contents, list of figures, and list of tables,
- automatic numbering of equations, section heads, etc.,
- symbolic referencing of equations, sections, etc.,
- optional margin notes to aid in keeping track of symbolic references,

- automatic generation of citation lists (IEEE style only),
- a subdocument feature for building large documents in pieces,
- a verbatim style using typewriter fonts for such things as program listings,
- a several document styles including a paperstyle and bookstyle,
- T<sub>E</sub>Xgraph,<sup>2</sup>
- slide making including graphics for letterhead.

#### 3.1.2 FTP availability

I am making the INRST<sub>E</sub>X document preparation package available over the network. There is both a unix and a pc version available. These differ only in the way they handle auxiliary files and graphics.

It is available from:

```
aldebaran.insl.mcgill.ca (132.206.94.5)
/pub/inrstex/pc      (directory for the pc)
/pub/inrstex/unix   (directory for the unix ver-
sion).
```

### 3.2 MLT<sub>E</sub>X, Oct. 1991

Next to INRST<sub>E</sub>X information, Michael also provided information about MLT<sub>E</sub>X.

#### 3.2.1 Description

MLT<sub>E</sub>X is modification of T<sub>E</sub>X3.+ that allows hyphenation of words with accented letters using ordinary "cm" fonts. It does this by translating T<sub>E</sub>X's internal code, following the T<sub>E</sub>X EC standard, into an equivalent <accent> <letter> just before the character is sent out to the .dvi file. These modifications have been called, internally "charsubdef".

In order to use it, you must merge the char\_sub.ch file with the appropriate change file for your port. This char\_sub.ch change file is essentially system independent.

#### 3.2.2 FTP availability

The change files for MLT<sub>E</sub>X are available on aldebaran.insl.mcgill.ca (132.206.94.5) /pub/mltex (directory).

The files included in both mltex.zip and mltex.tar.Z are as follows:

1. char\_sub.doc —charsubdef documentation.
2. char\_sub.ch —change file for charsubdef, modified May 1991, missing characters in sub list.
3. extdef.tex —an essentially ISO-Latin 1 definition of charsubdef . . . including uccodes (Mar 91).
4. compatible.tex —a set of macros to translate accent sequences into internal 8 bit codes. This set also includes inverses for the characters.

<sup>2</sup>A graphics system for drawing figures and inserting external figures. This uses the graphics primitives of PostScript. It is inside rather than outside the T<sub>E</sub>X system.

5. `masthyph.tex` —a master hyphenation control file that allows pattern files with accented letters to be input with the accented letters given by  $\text{T}_{\text{E}}X$ 's backslash codes eg `\'e` for `...`,
6. `frhyph.tex` —a (the?) French hyphenation file illustrating the `\...` coding in the patterns.
7. `ctex_csb.ch` —The Unix change file for converting  $\text{T}_{\text{E}}X$  3.14 to Big  $ML_{\text{E}}X$ .

Yours,

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