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Information Technology: The Living Language Textbook

The Living Language Textbook (LLT) is a set of resources and computer utilities comprising the collective efforts of authors of teaching materials. Instructors and students alike can use LLT to browse these materials and collect them into a textbook of their own, in the output medium of their choice. Furthermore, LLT takes care of mundane but important tasks, such as consistent text formatting and the generation of lists of new vocabulary throughout the book. Because LLT is directed at authors and readers, instructors and students, I will refer collectively to this audience simply as ``you."

The LLT concept is unlike that of the traditional book. 1) Content is determined by the reader, not the author. That is, *you* choose what goes into your book. 2) LLT restricts the author's scope to a small component, hereafter called a *module*. LLT books are constructed of any number of interchangeable modules, each of which may be written by a different author. The advantage of this scheme lies in the fact that you may choose the modules that seem to you to be the best in their category. 3) Modules can be arranged in any sequence. You are not constrained by the immutable seriality of the printed textbook. When you shuffle modules, LLT will perform tedious but essential tasks, such as printing a list of new vocabulary for each module (tasks, that, to a human, can be a greater burden than writing the text itself.) 4) The set of modules can change and grow at any time. If you find a module confusing, you can contact the author and suggest improvements, or browse for a different module on the same subject, or simply write your own and submit it to the database. Every author is given credit for each module he or she writes, and every book contains contact information for each author. This allows the reader to offer criticism (or even praise) directly. It also ensures undying glory for authors, and so might be an incentive to write (or, in some cases, not to write).

Just as you have control over the content of your LLT book, you also have control over its physical rendering. Unlike the printed book, LLT is not restricted to a single output format. While LLT is presently optimized to generate professional printed ([PostScript](#)) and [HTML](#) output, any number of additional formats can be specified in a manner that is *external* to the program itself. This means that there are no restrictions on output medium for the content of a book. The same book can now appear both in printed format as well as, say, a format optimized for Braille terminals, or speech synthesizers, or palm-top computers. There is no longer a restriction on who can read a book, or where it can be read.

This flexibility is partly due to the format in which the content of the modules is encoded. LLT modules are written in Extensible Markup Language ([XML](#)). A markup language allows authors to specify a document's logical structure, but does not allow them to make specific formatting decisions. For example, the author can specify the location of section headings, or what words are to be emphasized, or what phrases are in Latin. The author cannot, however, control the physical appearance of these elements. As a result, the computer can easily parse the document's logical markup and generate typographically consistent output according to a set of rules. Furthermore, the program can perform

operations collectively on a set of modules, making a table of contents out of the various section headings, or keeping track of what vocabulary has been learned, referring to its lexicon to make lists of new words. (LLT currently favors Latin, but [Unicode](#) support is being built in, and other character sets such as polytonic Greek will eventually be supported.)

The markup language currently enables the author to specify various section heads, create lists and tables, or specify the attributes of text, and more. LLT offers a particularly robust reading environment: All texts can be supplemented with two levels of critical apparatus, as well as chapter and paragraph numbering and (in printed output) line numbering. The author can also include digital images.

In sum, LLT can be treated as anything from a digital filing cabinet of handouts to the basis for a book which might be the primary text for a class. LLT was used this summer by its author to teach grammar and introductory-level reading, an experience that led to many improvements. Presently, LLT is looking for a permanent Internet site. When it finds one, it will be available for free use by anyone.

Contact [Jed Parsons](#) for further information.