

The Ivrix Project

<http://ivrix.org.il>

Towards a Hebrew Linux Distribution

Nadav Har'El <*nadav@harel.org.il*>

March 25, 2000, Tsukuba, Japan

Contents

- What users expect from Hebrew-supporting OS and applications
- The state of Hebrew-support in commercial software
- What has been done in Hebrew-support for Unix and Linux
- The goals of the Ivrix project
- The status of the Ivrix project

Things users expect from a Hebrew OS and application

- Ability to enter Hebrew text – everywhere
 - heading of graph, name in phone book
 - entries in forms
 - file names
 - paragraphs, and even whole documents, in Hebrew
- Combine RtL Hebrew with LtR numbers and English (and sometimes with other languages)
- A wide selection of Hebrew fonts
- Printing Hebrew
- Hebrew translation of menus and messages
- Hebrew translation of manuals and help files
- Hebrew (Jewish) calendar, and Jewish/Israeli holidays
- Hebrew spell checker
- Accepted standards for sharing Hebrew in
 - Text files
 - E-mail
 - Web pages (HTML)

An OS will never have a large market share in Israel without good Hebrew support.

Hebrew in commercial Operation systems

Microsoft Windows® (95/98/NT):

- Excellent, complete, Hebrew support in the OS, Office applications, and Internet Explorer.
- Local software with full Hebrew support, mostly based on the Hebrew-enabled OS.
- "Foreign" software still has minimal Hebrew support through OS support:
 - Hebrew fonts, bidirectional text entry, file names

Free Hebrew for Unix/Linux – What has already been done

Hebrew fonts for X Window System

- Iso8859–8 PCF fonts come with X (heb8x13, heb6x13) and with MIME (heb8x13B)
- Eli Marmor's fonts (PCF and type1)
- A wide selection of TrueType fonts

Encoding

- Iso8859–8 is most commonly used (224–250)
- Unicode or UTF8 are not commonly used

Input

- X and Linux console keyboard translations:



TeX Typesetting

- TeX—XeT and e-TeX add bidirectional typesetting (nested, explicit)
- Hebrew Metafont fonts, and TrueType fonts
- LaTeX 2.09: styles for writing Hebrew documents
- LaTeX 2e: babel Hebrew support
- Support for bilingual bibliographies and indices
- Hebrew and bidi support in Omega and ArabTeX

More typesetting and word-processing

- Groff supports Hebrew fonts (but not bidi)
- Htroff (now obsolete) supported bidi
- Lyx experimental Hebrew and bidi support
- Other word processors: cex, yudit

Hebrew (Jewish) calendar:

- Jewish–calendar "date" and "cal" equivalents (hdate, hcal, taarich, lhdate, hebcad, kluach...)

Text editors

- Vim has
 - Hebrew keyboard map (Iso 8859-8)
 - Ability to mirror window, and edit in right-to-left mode (useful for editing TeX, and other "logical-order" files)
 - Reverse-insert mode for inserting "visual-order" Hebrew
- GNU Emacs and XEmacs support Hebrew to varying degrees (the subject of other presentations)

Spell checker

- Initial word list of 10,000 words (vowel-less)
- Nouns are automatically inflected, according to the correct rules (over 20 forms for each noun)
- Ispell support (not fully working)

Electronic mail

- Pine and pico support for visual-order ISO Hebrew
- No support for Microsoft's implicit logical Hebrew

Terminal emulator and shell

- Xterm: supports direction change, window mirror, and Hebrew keyboard mapping
- No Hebrew message catalogs for common shell utilities

Hebrew documents

- Too few manuals and Howtos in Hebrew.
- No accepted standard for Hebrew text files

Bidirectional widgets

- FreeBidi: a library implementing the Unicode bidi algorithm
- Gtk:
 - Reflected text-entry widgets
 - Prototype Gtk bidi text-entry widget
 - Hopefully, Pango will support Bidi in Unicode
- Qt: anticipated Unicode bidi and unicode support
- El-Mar sells vendors a bidi Motif replacement

Web browsers

- El-Mar sells a version of Netscape 3.01 supporting Hebrew pages (logical/implicit

bidi, and visual), bidi input in form, and a Hebrew user–interface.

- IBM has a similar product for a newer Netscape
- Support for bidi and Hebrew is planned in Mozilla; Development is backed by the Israeli Internet Society.

Goals of the Ivrix Project

Why was the Ivrix project conceived?

- People were doing a great job developing free Hebrew solutions, but each worked alone.
- Users did not have a single site from which to get all the Hebrew solutions.
- Awareness of the acute need for Linux Hebrew support was low, and development was very slow and uncoordinated.

What were the goals of Ivrix?

- Bring developers together so that they can
 - Coordinate development and share ideas.
 - Learn of ongoing development and help where such help is needed.
- A single site for all Hebrew Linux solutions
- Bring to the attention of the public and developers the need of Hebrew on Linux

Ivrix's development guidelines:

- Prefer adding Hebrew solutions into existing software, over writing new software.
- All code written for the Ivrix project will be "free" (GPL, if possible).
- Prefer solutions that can be accepted internationally, not just for Hebrew (e.g., UTF8, not Iso 8859-8).

The Status of Ivrix

- Ivrix was announced in June, 1999
- Three mailing lists were created:
 - Ivrix–announce: 103 members, infrequent newsletters written by a moderator.
 - Ivrix–discuss: 64 members discussing their developments, bugs, what needs to be done, etc. Traffic varies between 0 and 20 messages a week.
 - Ivrix–isc: 8 posting members, "steering committee". This mailing list, as is the committee, is inactive.
- FTP archive <ftp.ivrix.org.il>:
 - Sources of some of the available free Hebrew software, and also many fonts.
 - Pointers to the rest that was not yet mirrored.
 - Almost no binaries or RPM packages yet.
- Web site www.ivrix.org.il:
 - Announcements
 - Mailing list archives

Problems ahead for Ivrix:

- Web site is incomplete, and not very useful: more work will have to be put into it.
- FTP archive is incomplete: much more work needs to be done in integrating existing Hebrew software into a coherent distribution.
- Few people are actually doing any new coding.
- There's much that still needs to be done.