

Multilingual online dvi viewing tool

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Oct 27, 2004

Indian Language Computing

Everday computing is done in local languages for people not comfortable with english

What is Localization

Translating English software to local languages

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Current Efforts

Indictrans.org and Indlinux.org

Developing tools for converting text strings to Indian languages

System Integration

KDE, Mozilla, OpenOffice, gedit, yudit

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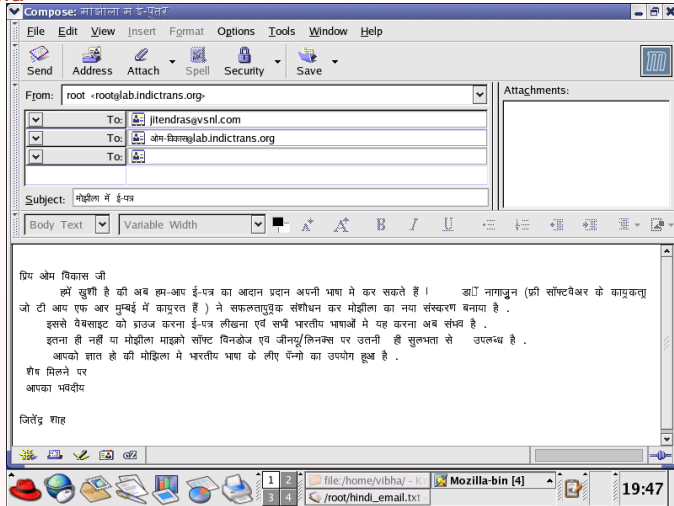
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Developing tools for converting text strings to Indian languages

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mozilla



yudit

The screenshot shows the Yudit 2.6.2 application window. The title bar reads "Yudit 2.6.2". The menu bar includes "utf-8", "TrueType", "unicode", and "Unix". The toolbar contains various icons for file operations and viewing. The main text area displays three paragraphs of text in different scripts, each preceded by a title in green. The first paragraph is in Hebrew, the second in Hindi, and the third in Hungarian. The status bar at the bottom shows "Line: 56", "Column: 1", "Font Size: 24", and "Glyph Info: 004B". The taskbar at the very bottom shows several open windows, including "root@server1:~ - Shell - Konsole", "amish@server1:~ - Shell - Konsole", and "X Yudit-2.6.2". The system clock in the bottom right corner shows "12:59".

Yudit 2.6.2
utf-8 /usr/local/yudit/share/yudit/doc/TestPage.txt
TrueType unicode Unix

Hebrew - עברית
הַאֵב אִךְ מִיר אַ מֶאֱנֵל פֿון פֿאַרצײַטִיקן שטאַף,
הַאֵט עס נִיט בײַ זײַך קײַן גאַנצענע שטאַך.
דאַרום הַאֵב אִךְ זײַך באַטראַכט.
פֿון מײַן מֶאֱנֵל אַ רעקל געמאַכט.

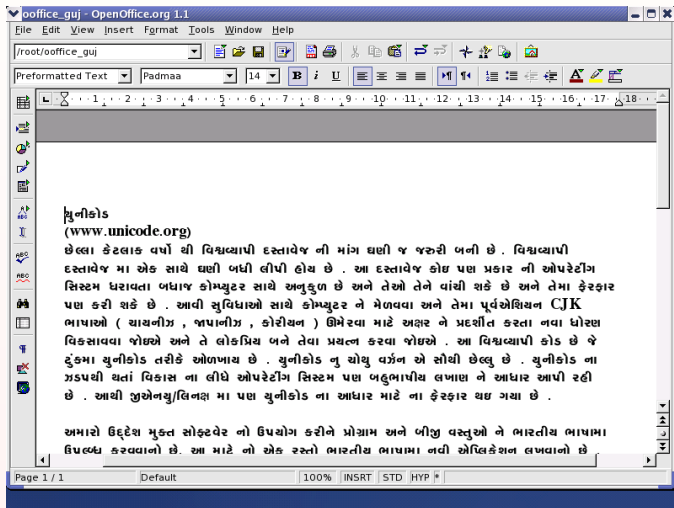
Hindi - हिन्दी
होगें कामयाब, होगें कामयाब,
हम होगें कामयाब एक दिन ।
नहीं डर किसी का आज के दिन
होगी शान्ति चारों ओर आज के दिन
हम चलेंगे साथ-साथ आज क दिन
मन में हैं विश्वास, पूरा हैं विश्वास ॥

Hungarian - Magyar
A tanyákon túl a puszta mélyén,
Áll magányos, dőlt kéményű csárda;
Látogatják a szomjas betyárok,
Kecskemétre menvén a vásárra.

Line: 56 Column: 1 Font Size: 24 Glyph Info: 004B

root@server1:~ - Shell - Konsole amish@server1:~ - Shell - Konsole X Yudit-2.6.2 12:59

OpenOffice



Aim of Our Project

Support online dvi-viewing of multilingual (latex) documents, by combining existing open-source tools

Component Tools

- ▶ Emacs
- ▶ Whizzytex
- ▶ ITRANS
- ▶ dvi viewer (ADVI)

Emacs

- ▶ Extensible, customizable, self-documenting editor
- ▶ commands for indentation
- ▶ Highly extensible through the Emacs Lisp language
- ▶ Support for many languages

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Emacs Modes

Major Mode

Minor Mode

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- ▶ support for variety of file types like plain text, source code, HTML files
- ▶ Emacs determines which mode to use based on the extension of file eg- TeX-mode, c++-mode, c-mode
- ▶ allow for automatic indentation of code, matching of parentheses and do command completion.

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Minor Modes

- ▶ With no argument it behaves like TOGGLING
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- ▶ zero argument or a negative argument always turns the mode OFF

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Whizzytex

A software comprising of

- ▶ minor mode for Emacs (`whizzytex.el`),
- ▶ a (bash) shell-script daemon (`whizzytex.sh`)
- ▶ and some LaTeX macros

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Itrans

An off-line pre-processor to convert English-encoded text to Indian language scripts

- * Type the native language in English
- * Each native language letter is assigned an English equivalent
- * Itrans translate the English-encoded text to get native language output

English-Encoded Text:- maraaThii

मराठी

Encoding

Input: ITRANS Encoding (7-bit ASCII)
or CS/CSX encoding (8-bit)

Output: Tex/PS/HTML (Unicode)

ltrans

An off-line pre-processor to convert English-encoded text to Indian language scripts

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ITRANS Encoding, Consonants

name	itrans	dev-1	dev-2	ben-1	ben-2	guj	kan	tel	gur	tam	rom
KA	ka	क	क	क	क	ક	ಕ	క	ਕ	க	ka
KHA	kha	ख	ख	ख	ख	ખ	ಖ	ఖ	ਖ	க	kha
GA	ga	ग	ग	ग	ग	ગ	ಗ	గ	ಗ	க	ga
GHA	gha	घ	घ	घ	घ	ઘ	ಘ	ఘ	ఘ	க	gha
NGA	ˆNa	ङ	ङ	ङ	ङ	ઙ	ಙ	ఙ	ఙ	ந	ˆna
CA	cha	च	च	च	च	ચ	ಚ	చ	ਚ	ச	ca
CHA	chha	छ	छ	छ	छ	છ	ಛ	ఛ	ఛ	ச	cha
JA	ja	ज	ज	ज	ज	જ	ಜ	జ	ਜ	ஐ	ja
JHA	jha	झ	झ	झ	झ	ઝ	ಝ	ఝ	ఝ	ஐ	jha
NYA	ˆna	ञ	ञ	ञ	ञ	-	ಞ	ఞ	ఞ	ஐ	ˆna
TTA	Ta	ट	ट	ट	ट	ટ	ಟ	త	ਤ	ட	ta
TTHA	Tha	ठ	ठ	ठ	ठ	ઠ	ಠ	థ	ਠ	ட	tha
DDA	Da	ड	ड	ड	ड	ડ	ಡ	ద	ਡ	ட	da
DDHA	Dha	ढ	ढ	ढ	ढ	ઢ	ಢ	డ	ਡ	ட	dha
NNA	Na	ण	ण	ण	ण	ણ	ಣ	ణ	ణ	ண	ˆna
TA	ta	त	त	त	त	ત	ತ	త	ਤ	த	ta
THA	tha	थ	थ	थ	थ	થ	ಥ	థ	ਥ	த	tha
DA	da	द	द	द	द	દ	ದ	ద	ਦ	த	da

ITRANS Encoding, Vowels

name	itrans	dev-1	dev-2	ben-1	ben-2	guj	kan	tel	gur	tam	rom
A	a	अ	अ	অ	অ	अ	ಅ	అ	ਅ	அ	a
AA	aa	आ	आ	আ	আ	आ	ಆ	ఆ	ਆ	ஆ	ā
I	i	इ	इ	ই	ই	ઇ	ಇ	ఇ	ਇ	இ	i
II	ii	ई	ई	ঐ	ঐ	ઈ	ಈ	ఈ	ਈ	ஈ	ī
U	u	उ	उ	উ	উ	ઉ	ಉ	ఉ	ਉ	உ	u
UU	uu	ऊ	ऊ	ঊ	ঊ	ઊ	ಊ	ఊ	ਊ	ஊ	ū
V. R	RRi	ऋ	ऋ	ঋ	ঋ	ઋ	ಋ	ఱ	—	ᱚ	r̥
V. RR	RRI	ॠ	—	—	ঌ	—	ಋ	ఱ	—	—	r̄
V. L	LLi	ऌ	—	—	—	—	ಲ್ಯ	ఱ	—	—	l̥
V. LL	LLI	ॡ	—	—	—	—	ಲ್ಯ	ఱ	—	—	l̄
E	e	ए	ए	এ	এ	ऐ	ಎ	ఎ	ਈ	எ	e
EE	E	—	—	—	—	—	ಎ	ఏ	—	ஏ	E
AI	ai	ऐ	ऐ	ঐ	ঐ	ऐ	ಐ	ఐ	ਅੈ	ஐ	ai
O	o	ओ	ओ	ও	ও	औ	ಒ	ఒ	ਓ	ஓ	o
OO	O	—	—	—	—	—	ಒ	ఒ	—	ஓ	O
AU	au	औ	औ	ঔ	ঔ	औ	ಌ	ఱ	ਅੌ	ஔ	au
VISARGA	aH	ः	ः	ঃ	ঃ	ः	ಃ	ః	ਃ	ஃ	ḥ

Are xdvi and gv good enough?

- ▶ Do not correctly render colors
- ▶ When reloading a file, first clean the page, and redraw online
- ▶ produces a flashing effect
- ▶ Incremental viewing not supported
- ▶ Non-interactive

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Active-DVI

- ▶ Incremental Viewing
- ▶ Active-DVI redraws a page in a background (avoids flashing)
- ▶ automatically turn pages of the viewer to display the page containing the cursor in Emacs
- ▶ conversely, adjust the Emacs cursor to the source file position when you click in the viewer window.

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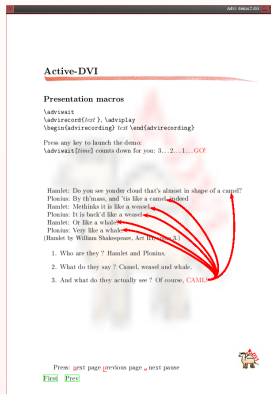
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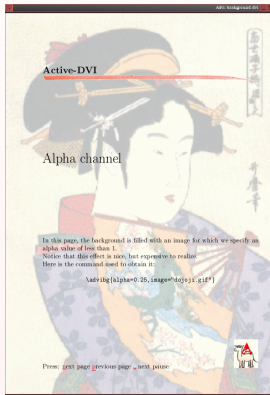
Active-DVI

Dynamic drawings with arrows



Active-DVI

Background Image



emacs + whizzytex + advi = online dvi pre-viewer

Basic Processing

1. load emacs with a tex file
2. get into whizzytex mode
3. whizzytex (shell script) runs in the background
4. launches the previewer, constantly giving feedback to the previewer

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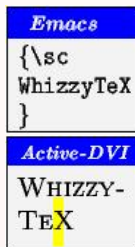
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Whizzytex details

Emacs code

- * the emacs minor-mode (Lisp Code)
- * takes care of initializations and starting whizzytex correctly
- * uses built-in emacs functions (post-command-hook, buffer-modified-tick, sit-for, etc.)
- * prepares slices

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Latex code

used to build a customized tex format for the current document

Bash code

- * watches the slice pool
- * recompiles slices
- * if successful, triggers the previewer else sends back error reports

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Aim

- Provide support for multilingual latex documents using itrans preprocessor

emacs + whizzytex + ITRANS + advi = multilingual online dvi pre-viewer

- ▶ Just before a slice is recompiled, check if ITRANS commands are included
- ▶ If yes, prepare the slice structure to get all necessary ITRANS commands in the slice
- ▶ pre-process slice with itrans
- ▶ Input the transliterated slice to the shell daemon

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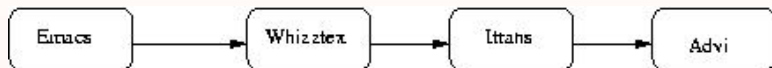
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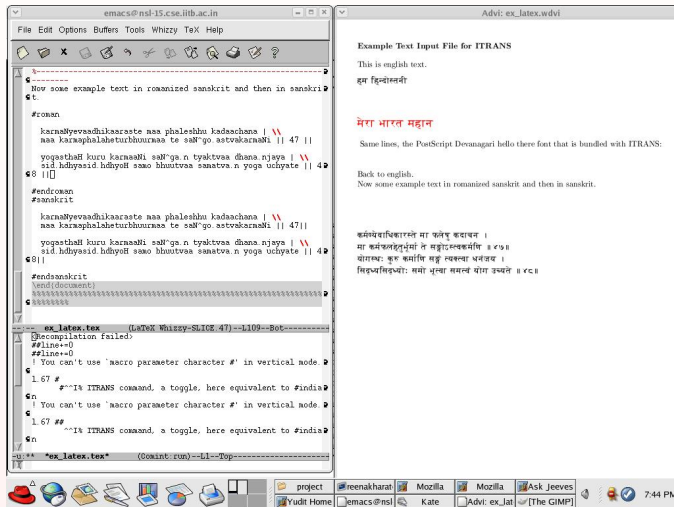
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Multilingual online dvi viewing tool



Enhancements...

- ▶ Error handling to be improved
- ▶ Seamless support for beamer, VANI

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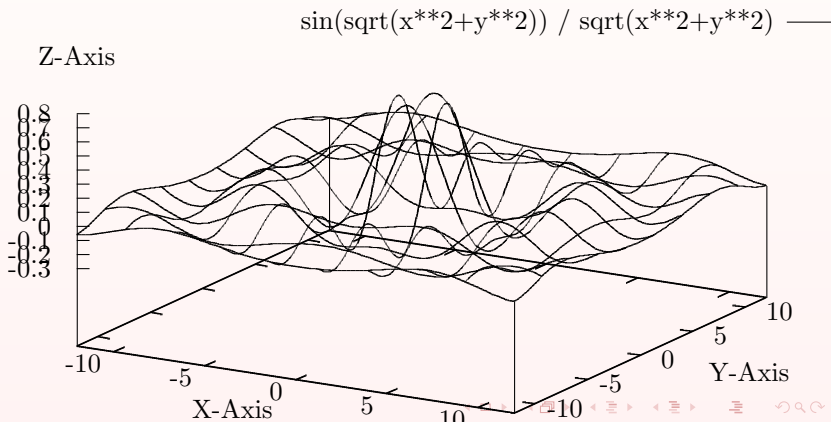
- ▶ http://www.phys.ufl.edu/docs/emacs/emacs_toc.html
- ▶ <http://www.indictrans.org/>
- ▶ <http://pauillac.inria.fr/whizzytex/>
- ▶ <http://pauillac.inria.fr/advi/>
- ▶ <http://www.unicode.org/>

Thank You

Table

Component List				
Component Name	use			
Emacs	Editor			
Whizzytex	minor-mode for emacs			
ltrans	preprocessor			
A-dvi	dvi Viewer			
Academics				
	Roll NO	Year	CPI	
	31	2004-05	8	
	41	2003-04	6.5	
	61	2003-04	7.3	
	71	2004-05	7.3	
	81	2003-04	6.2	

GNUPlot



pgf

