

State Library of Victoria

Harari

Version 2.0 for Tavultesoft Keyman Desktop

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The keyboard layouts and orthography mappings were developed by Vicnet, a division of the State Library of Victoria as part of the Open Road project's Language enablement initiative. These resources were developed for the Australian Saay Harari Association.

This manual was developed by [Vicnet](#), a division of the [State Library of Victoria](#) as part of the [Open Road](#) project's Language enablement initiative.

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INTRODUCTION

This report and associated keyboard layouts and mapping tables have been developed at the request of, and in consultation with the Australian Saay Harari Association, in Melbourne, Australia.

The Australian Saay Harari Association has adopted a Latin orthography to facilitate teaching their children the Harari language. There is also an awareness of the need to facilitate the use of the Ethiopic script, and provide mechanisms to facilitate its use. To achieve this, this report adopts two approaches:

- Develop an Ethiopic input device that uses exactly the same input sequences for Latin and Ethiopic orthographies, i.e. allows a student familiar with the Latin orthography to type in the Ethiopic orthography.
- Develop mapping tables allowing content to be written in the Latin script and then automatically converted to the Ethiopic script.

The Harari keyboard project will develop Latin script keyboard solutions for the following platforms:

1. Tavultesoft Keyman Desktop
2. Microsoft Win32 keyboard layouts
3. MacOS 10.2+ XML keyboard layouts

The MacOS and Microsoft Win32 keyboard layouts are under development. It is important to note that Keyman Desktop is a commercial product. There are two versions: Professional and Light. Keyman Desktop Light can only install a maximum of two keyboard layouts. Keyman Desktop Professional has no restrictions.

The MacOS and Microsoft Win32 keyboards are free.

Three keyboard layouts have been developed that share a common input method, they are based on the input system that follows the Latin orthography:

- Harari (Lâtîn harfi)
- Harari (Sabai harfi)
- Harari (Arabi harfi)

All three keyboards type the same way, allowing students who learn the Latin orthography to also type in the Ethiopic and Arabic orthographies.

For those users who are unfamiliar with the Latin orthography two additional keyboard layouts have been developed:

- Harari (Sabai muxxi harfi)

- Harari (Arabi muxxi harfi), which is based on the

Table 1: Available keyboard solutions

Keyboard	Keyman	Microsoft Win32 keyboard	MacOS
Harari (Lâtîn harfi)	YES	YES	YES
Harari (Sabai harfi)	YES		
Harari (Sabai muxxi harfi)	YES	YES	YES
Harari (Arabi harfi)	YES		
Harari (Arabi muxxi harfi)	YES	YES	YES

INSTALLING HARARI KEYBOARD LAYOUTS

Tavultesoft Keyman Desktop is a commercial product. There are two versions: Light and Professional. The Light version allows you to install two keyboard layouts. The professional version allows you to install many more layouts. It is available for download and purchase from the Tavultesoft website (<http://www.tavultesoft.com/>). Trial versions of Keyman Desktop have been included on the Harari 2.0 CD-ROM.

Free Microsoft style keyboard layouts are available for the Harari Latin orthography. Ethiopic and Arabic versions that use the Latin input system can not be implemented using Microsoft specific tools.

INSTALLING TAVULTESOFT KEYMAN

- Insert the Harari 2.0 CD-Rom into your computer's CD/DVD drive
- Open the CD-Rom in Windows Explorer
- Enter the Keyman folder
- Double click on Keyman Desktop files:
 - Double click on **keymandesktoplight-7.1.263.0.exe** if you wish to install Keyman Desktop Light
 - Double click on **keymandesktoppro-7.1.263.0.exe** if you wish to install Keyman Desktop Professional
- Follow the instructions on the install window

INSTALLING KEYMAN KEYBOARD PACKAGES

After you install Keyman you can install the Harari keyboard packages.

- Insert CD-Rom into computer, and navigate to the Keyman folder on the CD-rom
- To install the keyboard packages for the
 - Latin orthography, double click on the file **harlatn.kmp**
 - Ethiopic orthography, double click on the file **harethi.kmp** or **harethialt.kmp**
 - Arabic orthography, double click on the file **hararab.kmp** or **hararabalt.kmp**

a â à b c ch d dh ð e ê f

g gh gn h ħ i î j k kh l m

n o ô p q r s sh ś t ù u

û v w x xh y z zh ź

A Â Ã B C Ch D Dh Ð E Ê F

G Gh Gn H Ħ I Î J K Kh L M

N O Ô P Q R S Sh Ś T Ù U

Û V W X Xh Y Z Zh Ź

NOTES

Long vowels: â, ê, î, ô, û

Letter's required for English words: p, v

Letters required for Arabic words: dh, ð, ħ, gh, š, ț, ž

THE CHARACTER '̣

The character '̣:

- 1) indicates that the preceding consonant is an isolated consonant rather than part of a digraph, e.g. hêg'na (هَـڠِـنَا, حَـيْـنَ - replace) , i.e. g'n is "g + n" rather than "gn".
- 2) distinguishes between a double digraph and a consonant followed by digraph, mag'gna (مَـڠِـڠِـنَا, مَـيْـنَ - throwing) i.e. g'gn is "g + gn" rather than "ggn".
- 3) distinguishes between a consonant and an isolated vowel Gaz'i (ڠِـزَا, ڠِـزَا - God); or
- 4) following a vowel it indicates that the vowel is stressed ra'yi (رَايَا, رَايَا - idea) or usu' (اُسُوْ, اُسُوْ - people).

UNICODE CODEPOINTS

Lowercase		Uppercase	
Glyph	Codepoint(s)	Glyph	Codepoint(s)
â	U+00E2	Â	U+00C2
à	U+0227	À	U+0226
đ	U+1E0B	Đ	U+1E0A
ê	U+00EA	Ê	U+00CA

Lowercase	
Glyph	Codepoint(s)
ħ	U+1E23
î	U+00EE
ô	U+00F4
š	U+1E61
ț	U+1E6B
û	U+00FB
ž	U+017C
’	U+02BC

Uppercase	
Glyph	Codepoint(s)
Ĥ	U+1E22
Î	U+00CE
Ô	U+00D4
Š	U+1E60
Ț	U+1E6A
Û	U+00DB
Ž	U+017B

TYPING HARARI IN THE LATIN SCRIPT

CHARACTER SEQUENCES FOR INPUT FOR KEYMAN:

Diacritic	Base characters	Key sequence
â	a e i o u A E I O U	<i>Vowel</i> + “[”
ô	a d h s t z A D H S T Z	<i>Character</i> + “]”

Modifier letter	Key sequence
’	“\”

KEYBOARD LAYOUT

NORMAL (UNSHIFTED)

`	1	2	3	4	5	6	7	8	9	0	- =	BkSp
Tab	q	w	e	r	t	y	u	i	o	p	^	^
Caps	a	s	d	f	g	h	j	k	l	;	'	Enter
Shift		z	x	c	v	b	n	m	,	.	/	Shift
L Ctrl		L Alt									R Alt	R Ctrl

SHIFT

~	!	@	#	\$	%	^	&	*	(	)	_ +	BkSp
Tab	Q	W	E	R	T	Y	U	I	O	P	^	^
Caps	A	S	D	F	G	H	J	K	L	:	"	Enter
Shift		Z	X	C	V	B	N	M	<	>	?	Shift
L Ctrl		L Alt									R Alt	R Ctrl

RIGHT ALT

												BkSp
Tab										[]	\
Caps												Enter
Shift												Shift
L Ctrl		L Alt									R Alt	R Ctrl

SHIFT+RIGHT ALT

												BkSp
Tab										{	}	|
Caps												Enter
Shift												Shift
L Ctrl		L Alt									R Alt	R Ctrl

HARARI (SABAI HARFI)

	a	u	i	a[	e		o	e[	i[	o[	u[
h]	ሀ	ሁ	ሂ	ሃ	ሄ	ህ	ሆ	ኀ	ኁ	ኂ	ኃ
l	ለ	ሉ	ሊ	ላ	ሌ	ል	ሎ	ላ	ሊ	ላ	ሊ
h	ሐ	ሑ	ሒ	ሓ	ሔ	ሕ	ሐ	ሐ	ሑ	ሒ	ሓ
m	መ	ሙ	ሚ	ማ	ሜ	ም	ሞ	ሜ	ሚ	ሞ	ሙ
t]	ሠ	ሡ	ሢ	ሣ	ሤ	ሥ	ሦ	ሣ	ሤ	ሥ	ሦ
r	ረ	ሩ	ሪ	ራ	ሬ	ር	ሮ	ሬ	ሪ	ሮ	ሩ
s	ሰ	ሱ	ሲ	ሳ	ሴ	ስ	ሶ	ሰ	ሱ	ሶ	ሷ
sh	ሸ	ሹ	ሺ	ሻ	ሼ	ሽ	ሾ	ሸ	ሹ	ሺ	ሻ
q	ቀ	ቁ	ቂ	ቃ	ቄ	ቅ	ቆ	ቀ	ቁ	ቂ	ቃ
b	በ	ቡ	ቢ	ባ	ቤ	ብ	ቦ	በ	ቡ	ባ	ቤ
t	ተ	ቱ	ቲ	ታ	ቲ	ት	ቶ	ተ	ቲ	ት	ቶ
ch	ቸ	ቹ	ቺ	ቻ	ቼ	ች	ቸ	ቸ	ቹ	ቺ	ቻ
gh	ገ	ጉ	ጊ	ጋ	ጌ	ግ	ገ	ገ	ጉ	ጊ	ጋ

	a	u	i	a[	e		o
n	ነ	ኑ	ኒ	ና	ኔ	ን	ኖ
gn	ኘ	ኙ	ኚ	ኛ	ኜ	ኝ	ኞ
	አ	ኡ	ኢ	ኣ	ኤ	ኦ	ኧ
k	ከ	ኩ	ኪ	ካ	ኬ	ክ	ኮ
kh	ኸ	ኹ	ኺ	ኻ	ኼ	ኽ	ኾ
w	ወ	ዉ	ዐ	ዑ	ዒ	ዓ	ዔ
a]	ዐ	ዑ	ዒ	ዓ	ዔ	ዕ	ዖ
z	ዘ	ዙ	ዚ	ዛ	ዞ	ዟ	ዠ
zh	ዸ	ዹ	ዺ	ዻ	ዼ	ዽ	ዾ
dh	ፀ	ፁ	ፊ	ፋ	ፅ	ፈ	ፉ
y	የ	ዩ	ደ	ደ	ደ	ደ	ደ
d	ደ	ደ	ደ	ደ	ደ	ደ	ደ
xh	ደ	ደ	ደ	ደ	ደ	ደ	ደ
j	ጀ	ጀ	ጀ	ጀ	ጀ	ጀ	ጀ
g	ገ	ገ	ገ	ገ	ገ	ገ	ገ

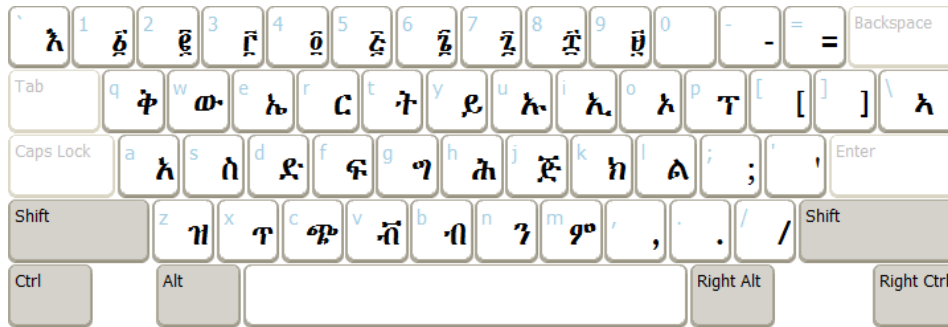
e[	i[	o[	u[
ኚ	ኛ	ኞ	ኟ
ኜ	ኝ	ኞ	ኟ
ኸ	ኹ	ኺ	ኻ
ኼ	ኽ	ኾ	኿
ዐ	ዑ	ዒ	ዓ
ዒ	ዓ	ዔ	ዕ
ዘ	ዙ	ዚ	ዛ
ዸ	ዹ	ዺ	ዻ
ፀ	ፁ	ፊ	ፋ
ደ	ደ	ደ	ደ
ደ	ደ	ደ	ደ
ጀ	ጀ	ጀ	ጀ
ገ	ገ	ገ	ገ

	a	u	i	a[	e		o	e[	i[	o[	u[
x	ᄁ	ᄂ	ᄃ	ᄄ	ᄅ	ᄆ	ᄇ	ᄈ	ᄉ	ᄊ	ᄋ
c	ᄌ	ᄍ	ᄎ	ᄏ	ᄐ	ᄑ	ᄒ	ᄓ	ᄔ	ᄕ	ᄖ
d]	ᄗ	ᄘ	ᄙ	ᄚ	ᄛ	ᄜ	ᄝ	ᄞ	ᄟ	ᄠ	ᄡ
s]	ᄢ	ᄣ	ᄤ	ᄥ	ᄦ	ᄧ	ᄨ	ᄩ	ᄪ	ᄫ	ᄬ
f	ᄭ	ᄮ	ᄯ	ᄰ	ᄱ	ᄲ	ᄳ	ᄴ	ᄵ	ᄶ	ᄷ
p	ᄸ	ᄹ	ᄺ	ᄻ	ᄼ	ᄽ	ᄾ	ᄿ	ᄿ	ᄿ	ᄿ
v	ᄿ	ᄿ	ᄿ	ᄿ	ᄿ	ᄿ	ᄿ	ᄿ	ᄿ	ᄿ	ᄿ
z]	ᄿ	ᄿ	ᄿ	ᄿ	ᄿ	ᄿ	ᄿ	ᄿ	ᄿ	ᄿ	ᄿ

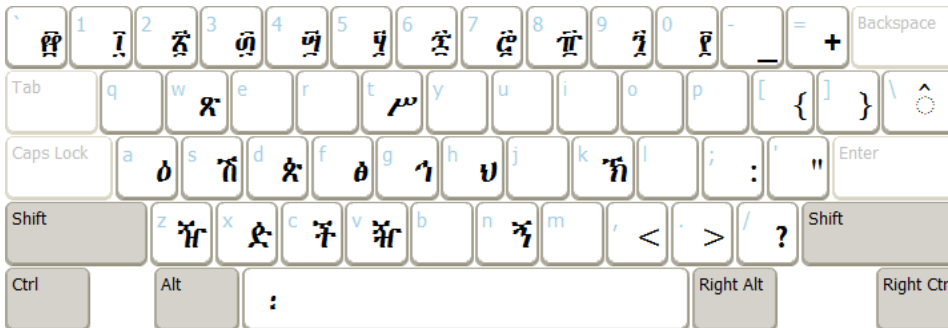
a\	e\	i\	o\	u\	a[\	e[\	i[\	o[\	u[\
ᄁᄂ	ᄃᄄ	ᄅᄆ	ᄇᄈ	ᄉᄊ	ᄋᄌ	ᄍᄎ	ᄏᄐ	ᄑᄒ	ᄓᄔ

HARARI (SABAI MUXXI HARFI)

NORMAL



SHIFT



ALTGR (RIGHT ALT)



SHIFT + ALTGR (RIGHT ALT)



CONSONANTS

	Isolated	Code point
a]	ع	U+0639
b	ب	U+0628
c	ظ	U+069F
ch	پس	U+069B
d	د	U+062F
dh	ذ	U+0630
d]	ض	U+0636
f	ف	U+0641
g	چ	U+0758
gh	غ	U+063A
gn	ن	U+0767
h	ح	U+062D
h]	ه	U+0647

	Isolated	Code point
j	ج	U+062C
k	ك	U+0643
kh	خ	U+062E
l	ل	U+0644
m	م	U+0645
n	ن	U+0646
p	پ	U+067E
q	ق	U+0642
r	ر	U+0631
s	س	U+0633
sh	ش	U+0634
s]	ص	U+0635
t	ت	U+062A
t]	ث	U+062B

	Isolated	Code point
v	ف	U+06A4
w	و	U+0648
x	ط	U+0637
xh	ك	U+06AC
y	ي	U+064A
z	ز	U+0632
zh	ژ	U+0698
z]	ظ	U+0638

DEPENDANT VOWELS

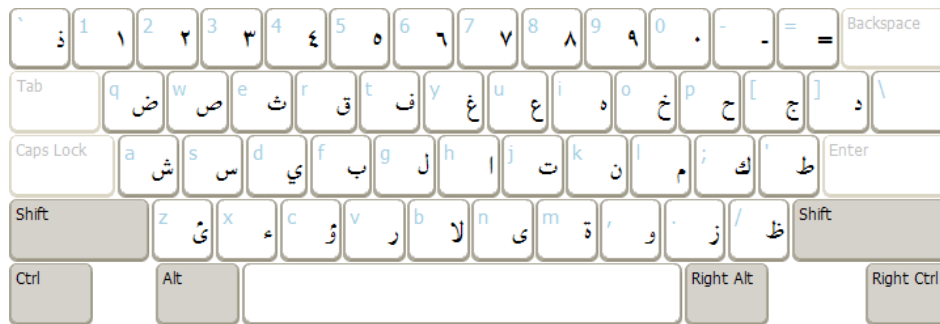
Vowel	Short type: vowel	Long type: vowel + [	Short stressed type: vowel + \	Long stressed type: vowel + [+ \
a	بَ	بَا	بَا̇	بَاءَ
e	بِ	بِي	بِي̇	بِيَّ
i	بِ	بِي	بِي̇	بِيَّ
o	بُ	بُو	بُو̇	بُوَّ
u	بُ	بُو	بُو̇	بُوَّ

INDEPENDENT VOWELS

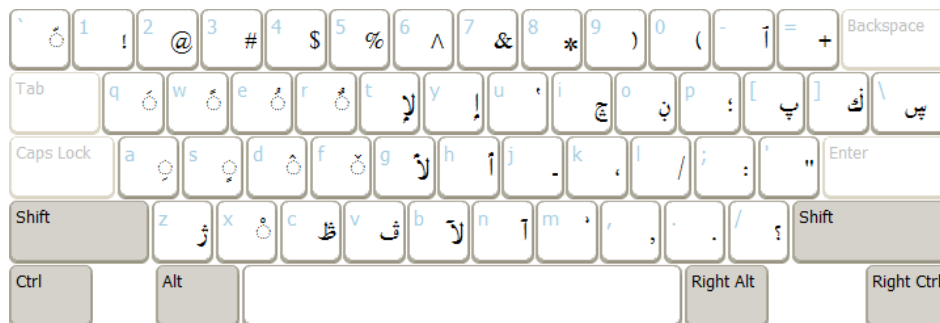
Vowel	Short type: vowel	Long type: vowel + [	Short stressed type: vowel + \	Long stressed type: vowel + [+ \
a	أَ	أَا	أَا̇	أَاءَ
e	إَ	إِي	إِي̇	إِيَّ
i	إَ	إِي	إِي̇	إِيَّ
o	أُ	أُو	أُو̇	أُوَّ
u	أُ	أُو	أُو̇	أُوَّ

HARARI (ARABI MUXXI HARFI)

NORMAL



SHIFT



ALTGR (RIGHT ALT)



SHIFT + ALTGR (RIGHT ALT)



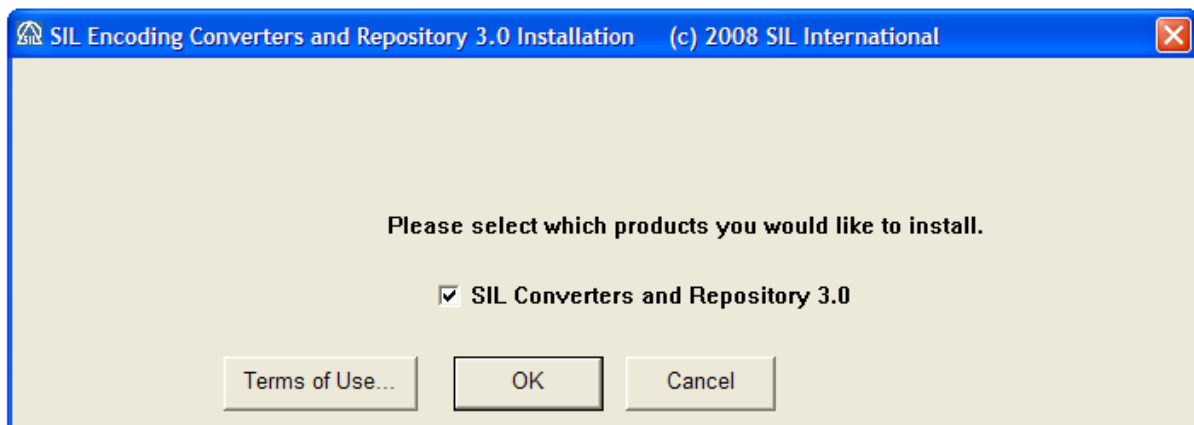
MAPPING FILES

Two mapping files have been developed using SIL Encoding Converters

1. Harari Latin to Ethiopic.
This mapping converted between the Latin and Ethiopic orthographies used in this document. It is important to note that:
 - a. The Ethiopic script is unicameral while the Latin script is bicameral. When you convert from Ethiopic to Latin, all text is in lowercase. Select the text and convert the casing to sentence casing.
 - b. It is necessary to manually check the document after the document has been converted.
2. Strip long vowels from Harari text written in the Ethiopic script.

INSTALLING SIL ENCODING CONVERTERS

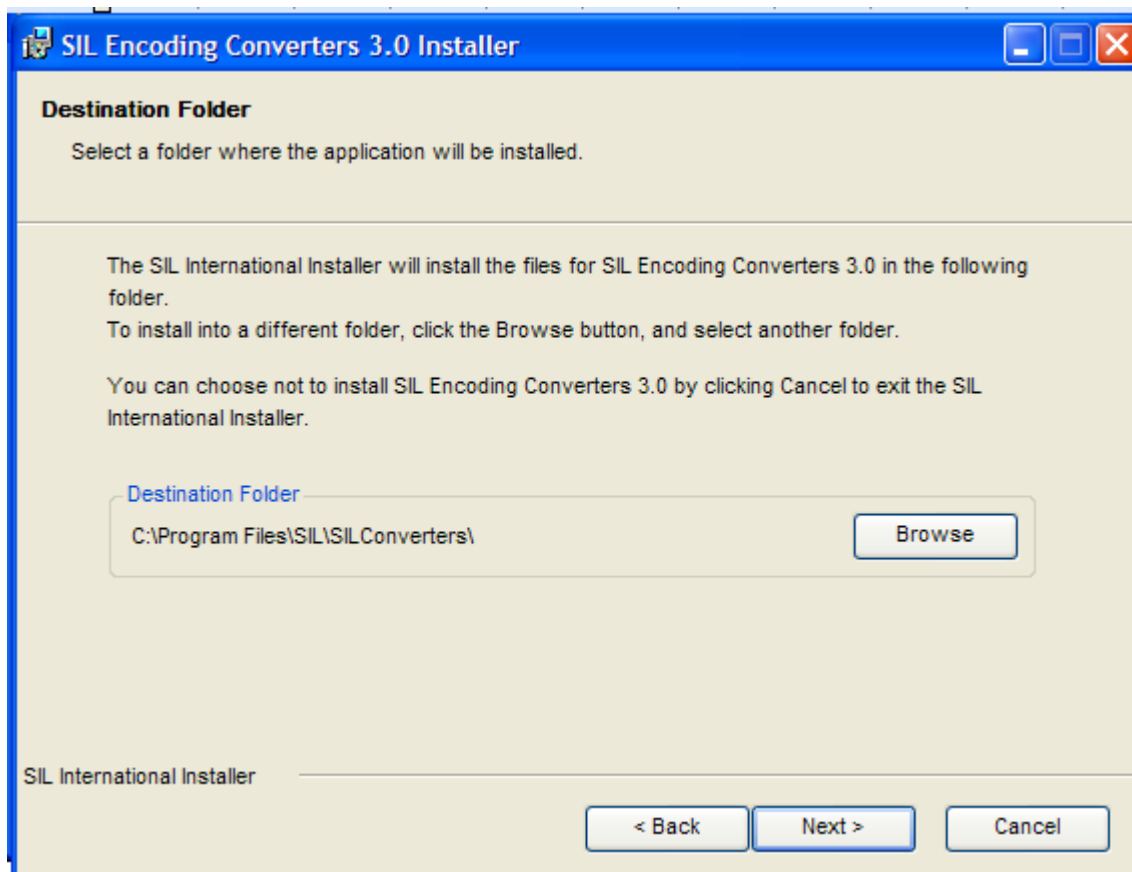
- Insert the Harari 2.0 CD-Rom into your computer's CD/DVD drive
- Open the CD-Rom in Windows Explorer
- Enter the conversion folder
- Enter the SIL_Converters folder
- Double click on the **setup.exe** file



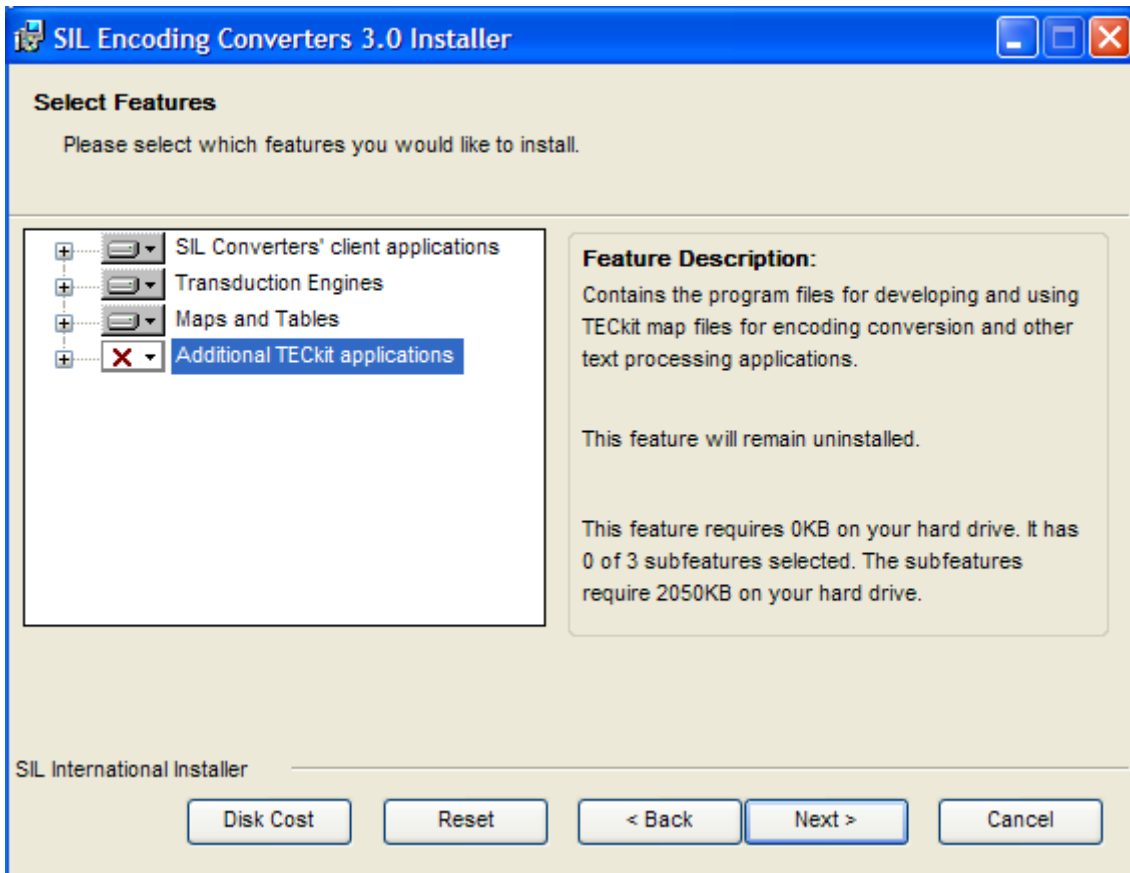
- Select **SIL Converters and Repository 3.0** and click on the **OK** button



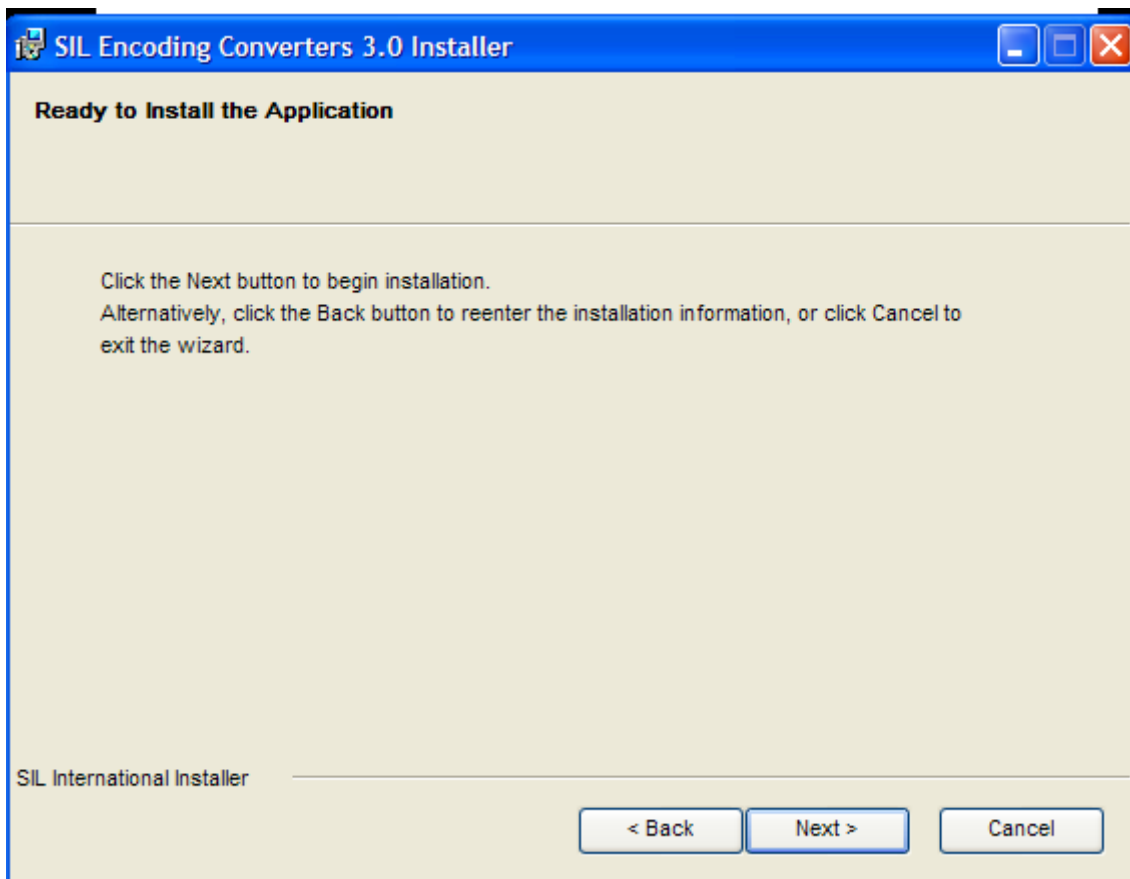
- Click on the Next button



- Click on the Next button



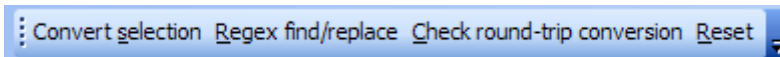
- Click on the Next button



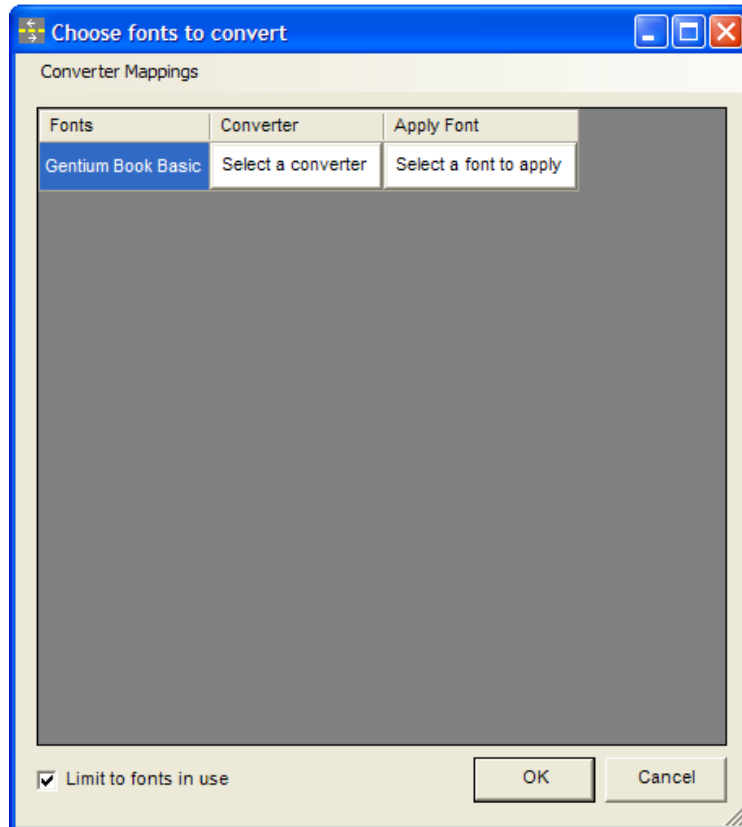
- Click on the Next button
- Follow the instructions on the install window
- Click on the Finish button

INSTALLING HARARI MAPPING FILES

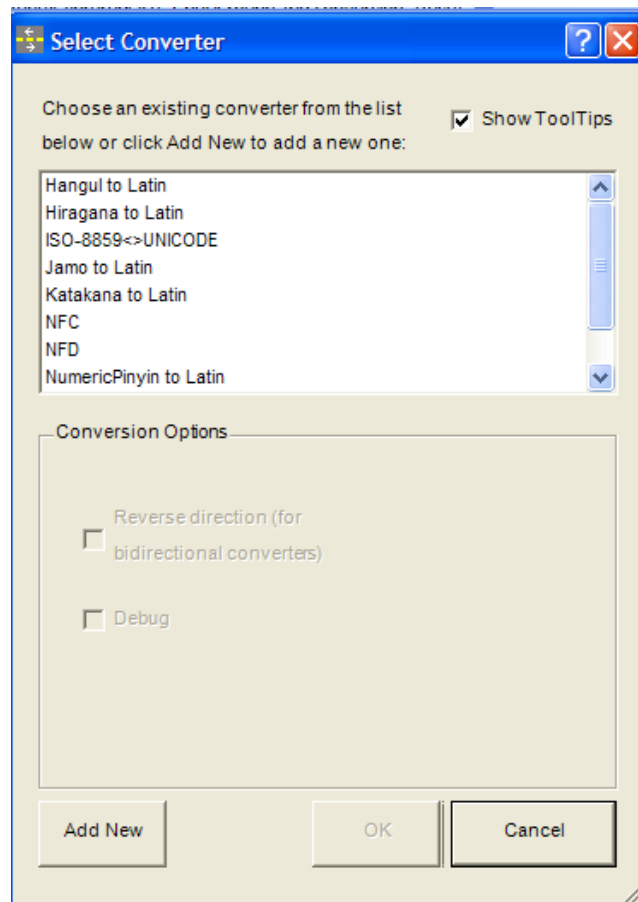
- Start up Microsoft Word. Within word there is a new toolbar:



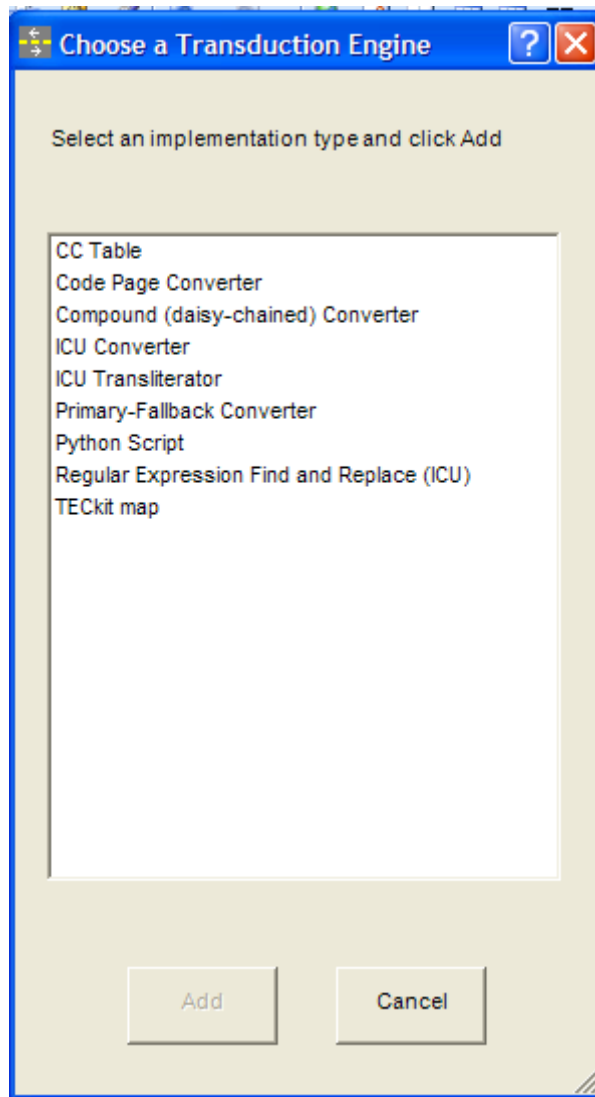
- Select some text and click on the “Convert selection” button.



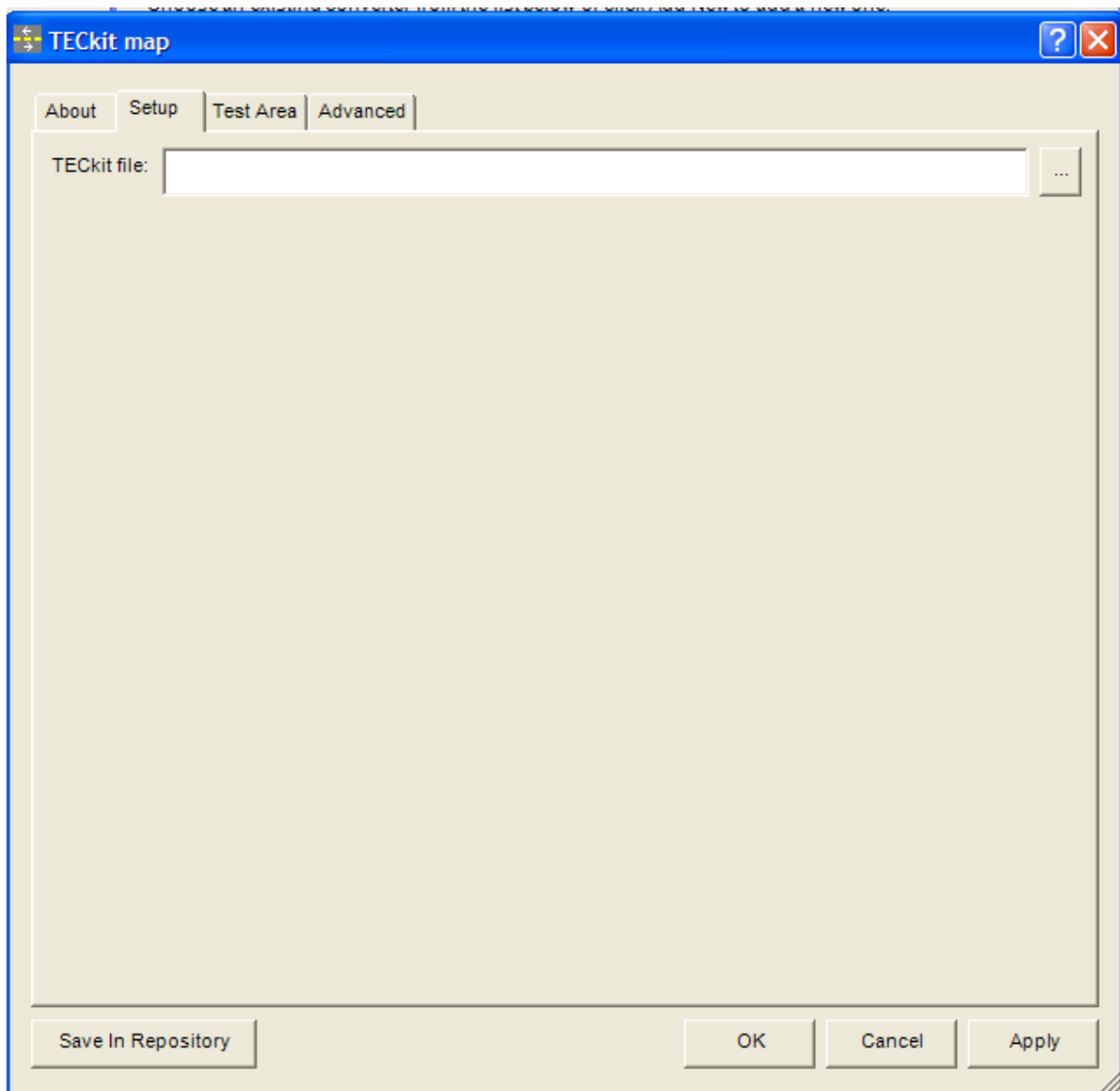
- Click on the Select a convertor field



- Click on the Add New button



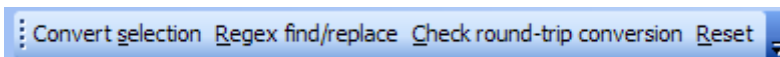
- Click on **TEckit map**
- Click on the **Add** button
- In the new dialog box, click on the **Setup** tab



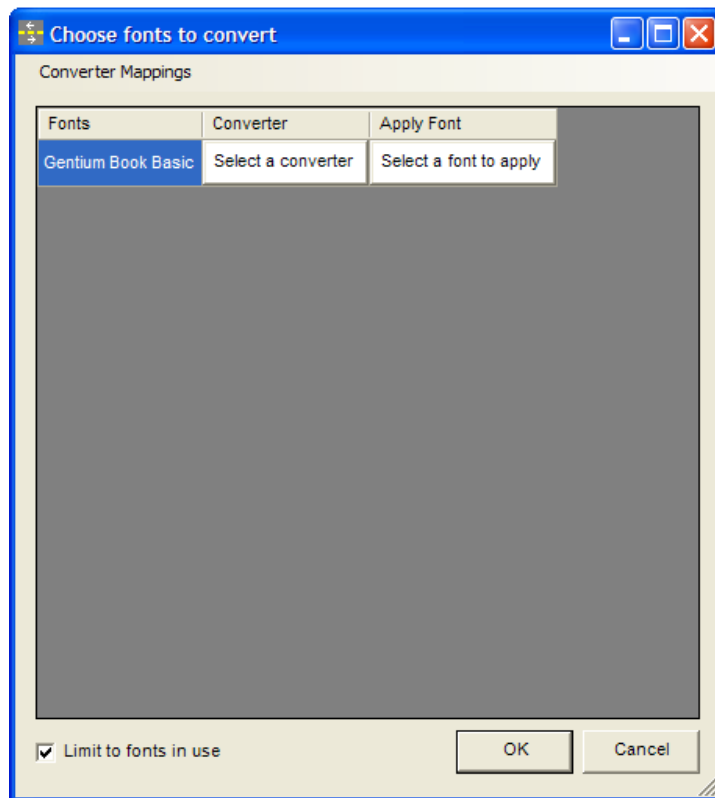
- Click on the “...” button and navigate to the conversion folder on the CD-Rom.
- Select the **har-latn2ethi.tec** file.
- Click on the Save in Repository button
- Give the file a name, e.g. Harari Latin <> Ethiopic
- Click on the OK button
- Click on the OK button on each screen to exit

USING HARARI MAPPING FILES

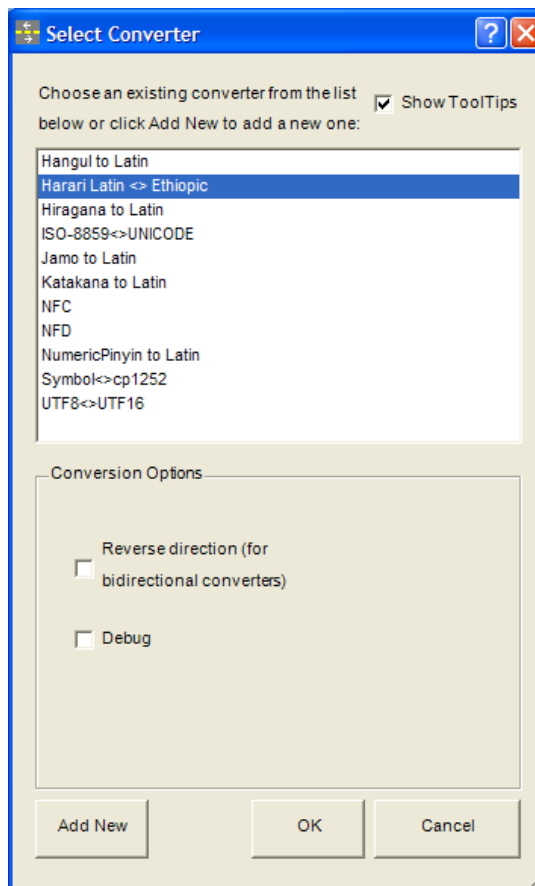
- Start up Microsoft Word. Open up the document you wish to convert.



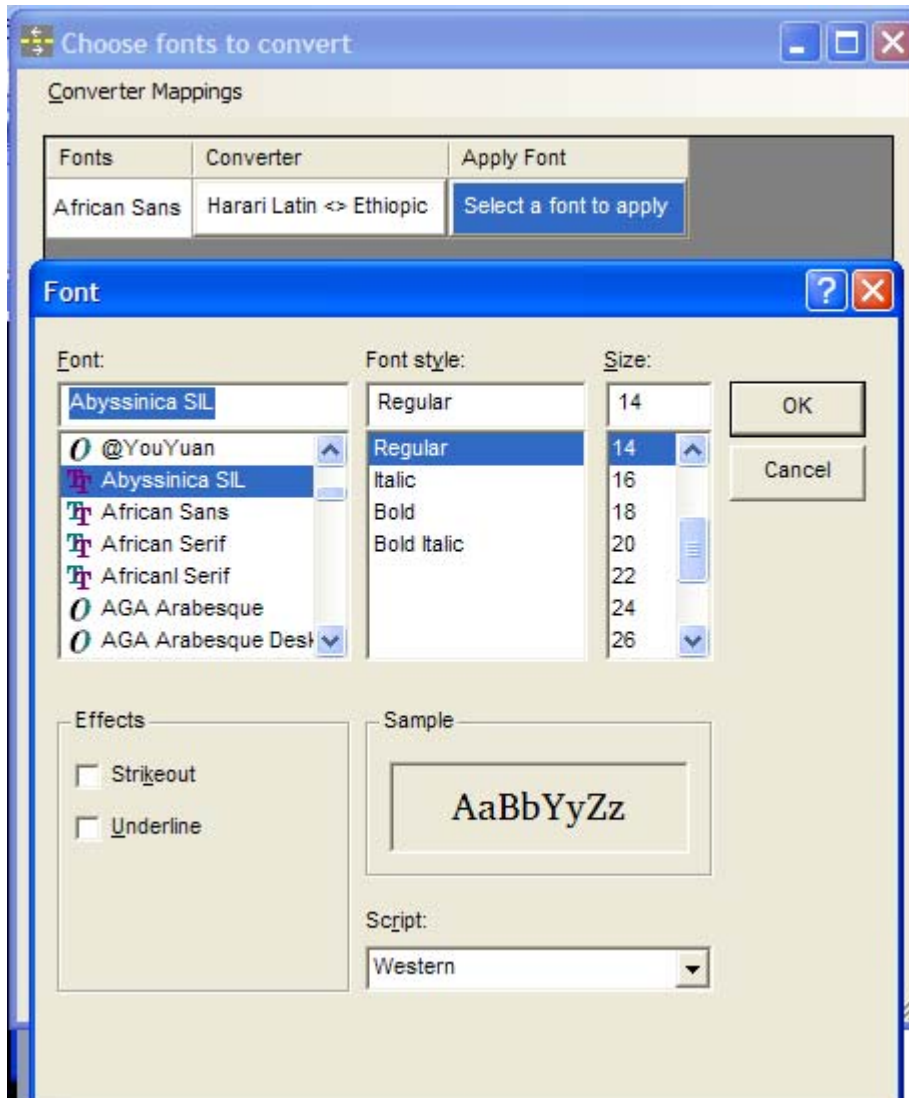
- Select the text you wish to convert and click on the “Convert selection” button.



- Click on the Select a convertor field

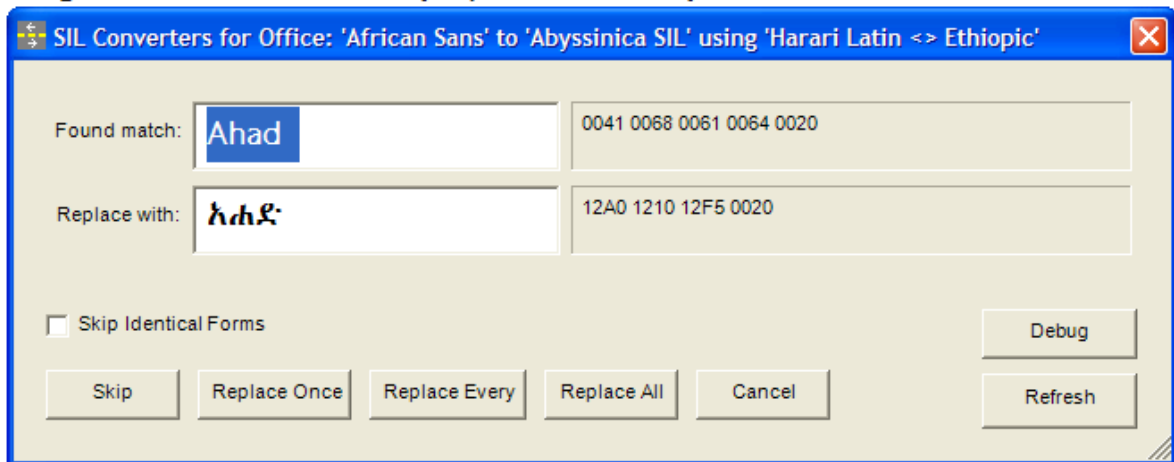


- Select on **Harari Latin <> Ethiopic** converter
- Click on the **OK** button
- Click on the **Select a font to apply** field



- Select the required font for converted text, e.g. Abyssinica SIL and click on the **OK** button

Ahad bâdbe abôchwâ mishti yinabrînnâru. Kootziyûm fizbe gawwa nâru. Yinabrizâlu yinabrizâlu bâd nanâwxâna bâyuma sinqiziyûw lahaduma ûga êgalu. Yifîxzâlu zar xaraf yuqûrrâlu. Rahabêyuma basso marêhas khashu.



- Click on the **Replace All** button

FONTS

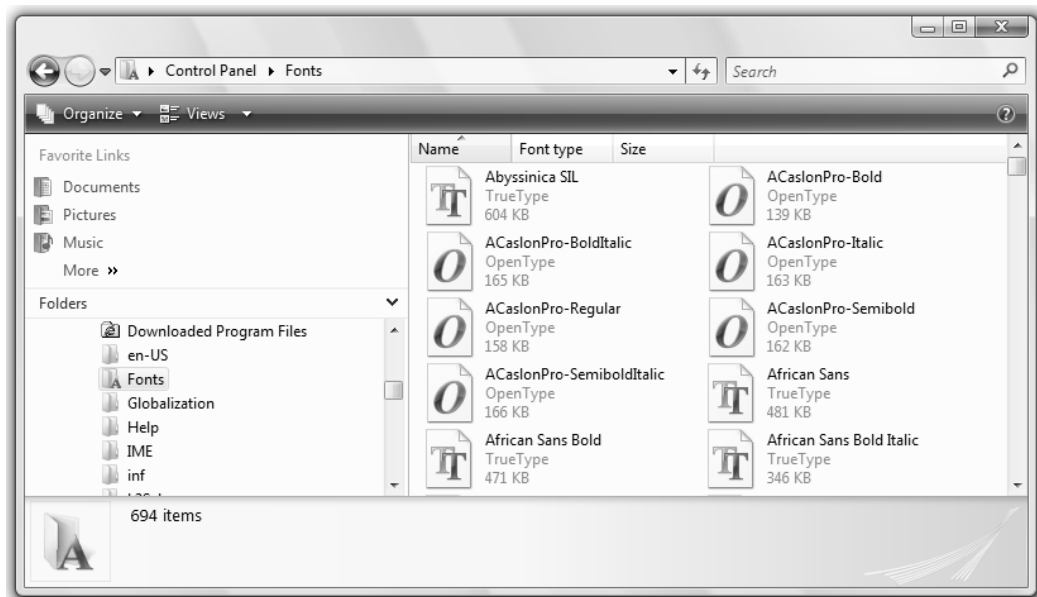
Suitable fonts for the Harari Latin orthography are available in the **Fonts** folder of the Harari 2.0 CD-Rom.

WINDOWS VISTA

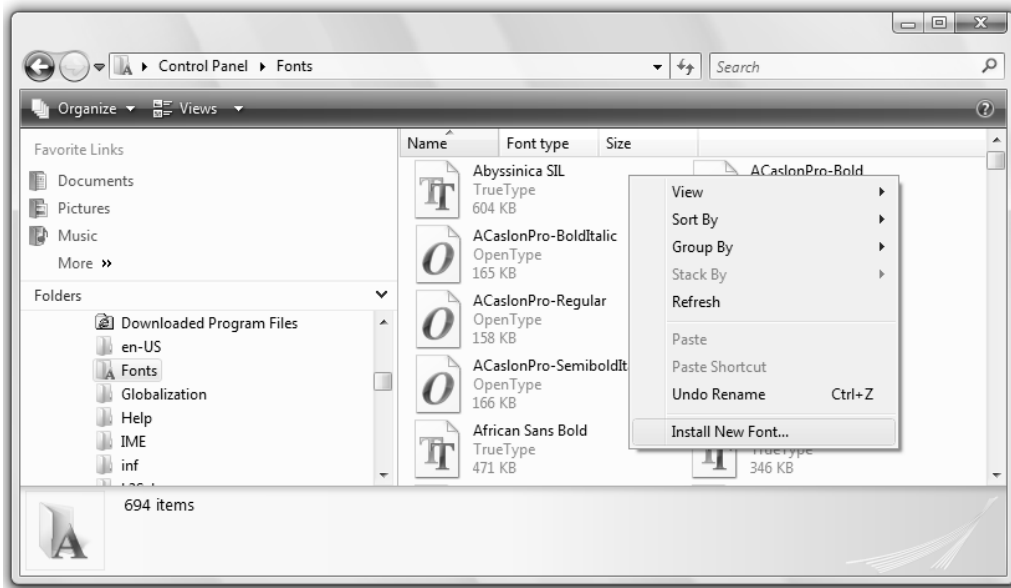
1. Click on the *Start* button, go to the *Control Panel*
2. Click on *Fonts*

Alternatively, use the *run* command to execute the following command:

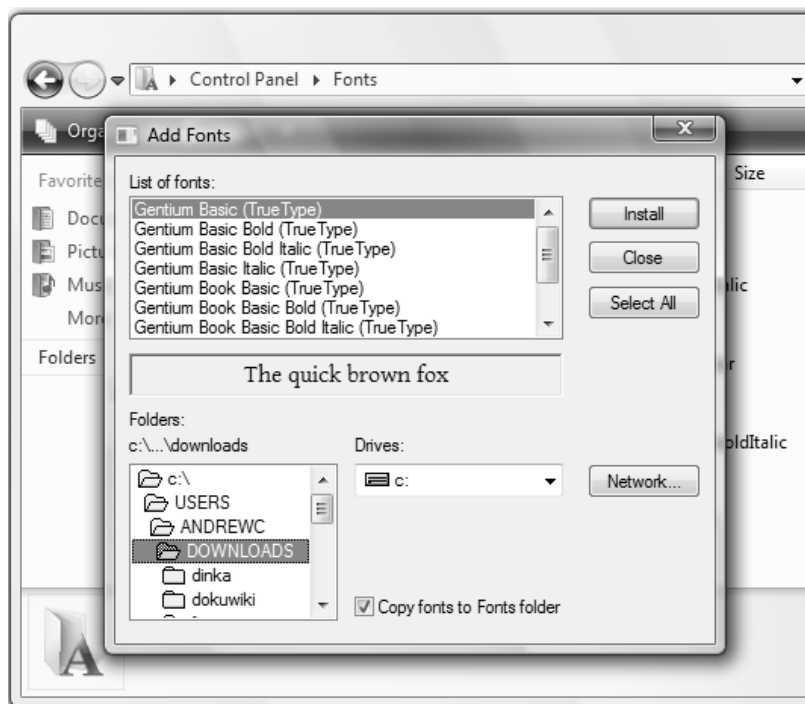
```
control Fonts
```



3. Right mouse click in the font list, and select *Install New Font* from the context menu



4. Navigate to the directory fonts have been downloaded to, and select fonts to install. You can select more than one font at a time.



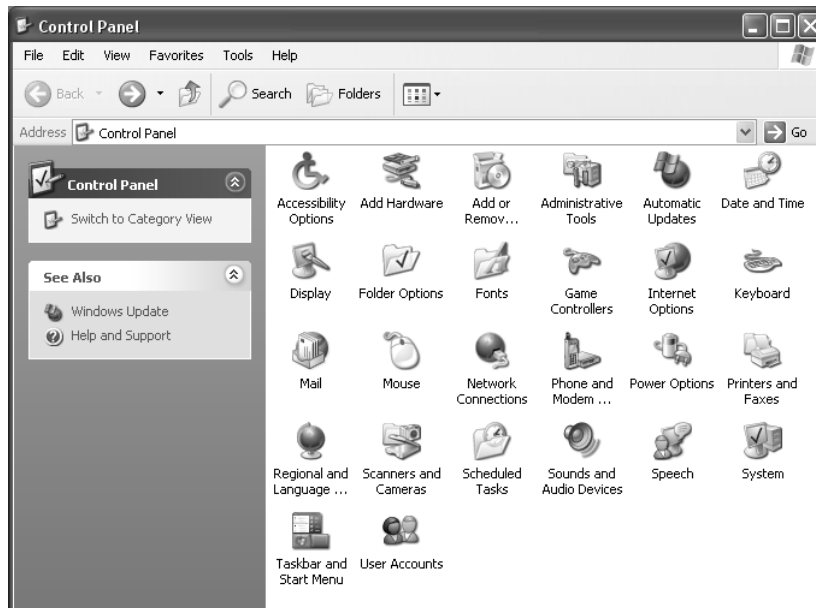
5. Click on the **Install** button

To install fonts:

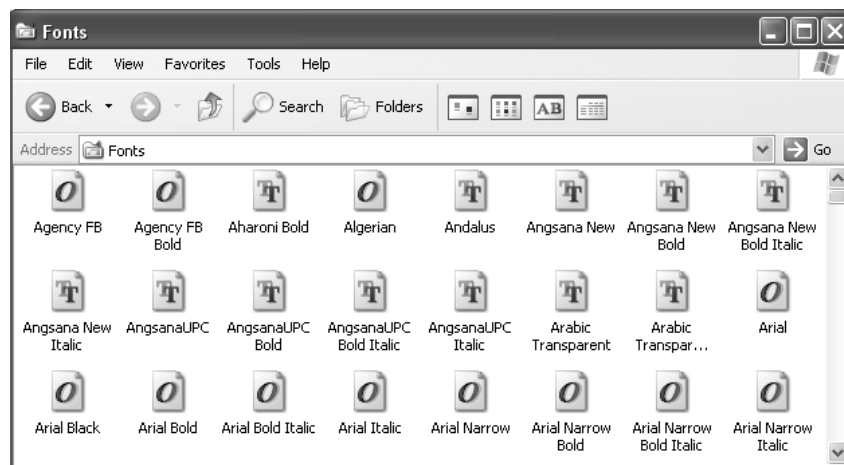
1. Download the fonts, unzip and store the fonts in a temporary directory, e.g. C:\TEMP.



2. Click the *Start* button, and then select *Control Panel* from the *Start* menu.



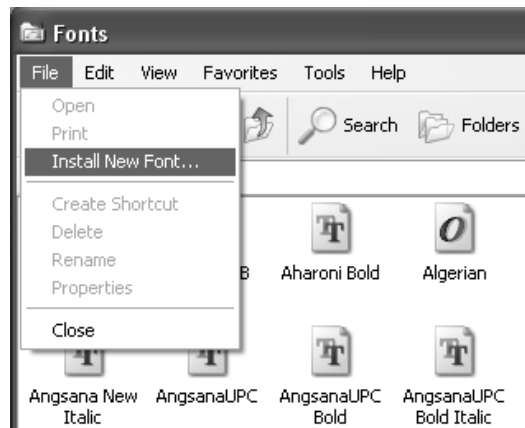
3. Open the *Fonts* folder



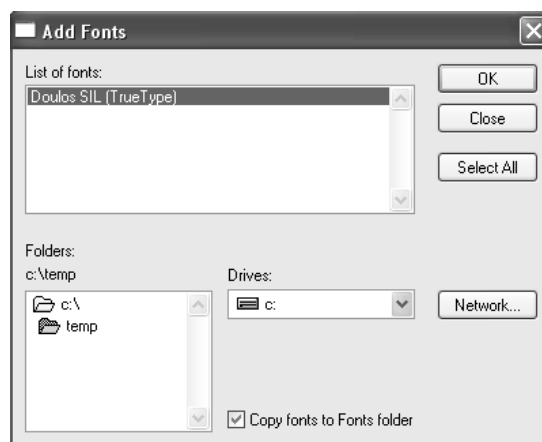
It is possible to use the *run* command to directly access the *Fonts*. Press the *Windows* key and the *R* key to activate the *Run command* dialog, then type in the command:

```
control Fonts
```

4. Select the *File* menu
5. Select the *Install New Font* submenu



6. Navigate to the temporary folder where you've stored the fonts you wish to install



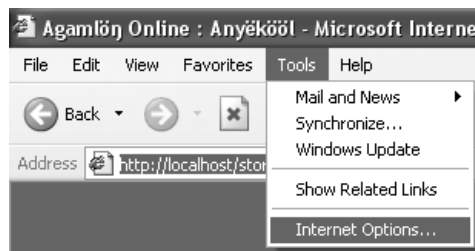
7. Click the *Select All* button

INTERNET EXPLORER 6

There are a number of settings within Internet Explorer that can be configured to control the behaviour of Internet Explorer. It is possible to configure the default fonts that Internet Explorer uses. If a web designer does not specify a font or if the font specified in the web page or style sheet is not installed on your computer, then the browser will use the fonts specified in the browser's preferences. It is also possible to specify the preferred languages of the user. This information is used during language negotiation between a web browser and a web server when the web site contains multiple languages and been configured to send the user the web page in their preferred language. It is unlikely you will need to change the preferred language settings.

CUSTOMISING DEFAULT FONTS

1. Select the *Tools* menu



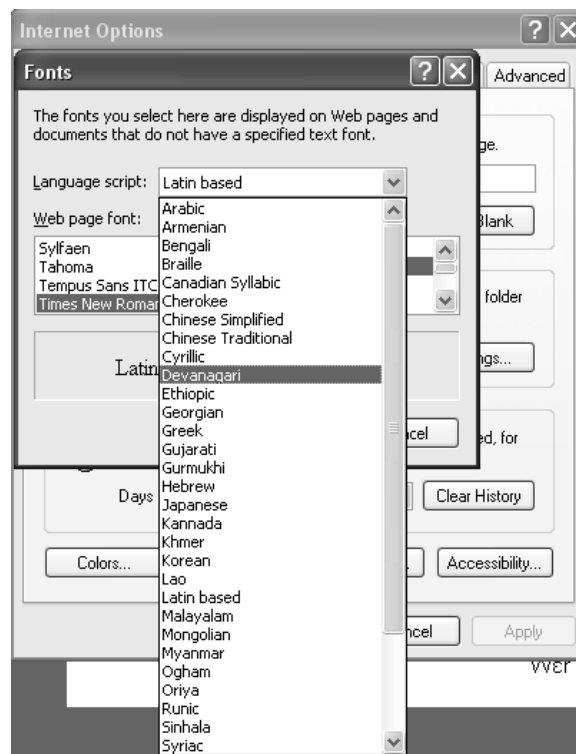
2. Select the *Internet Options* submenu



3. Click on the *Fonts* button



4. Choose the language script, you wish to select fonts for, from a dropdown menu



5. Select the required *Web page font*

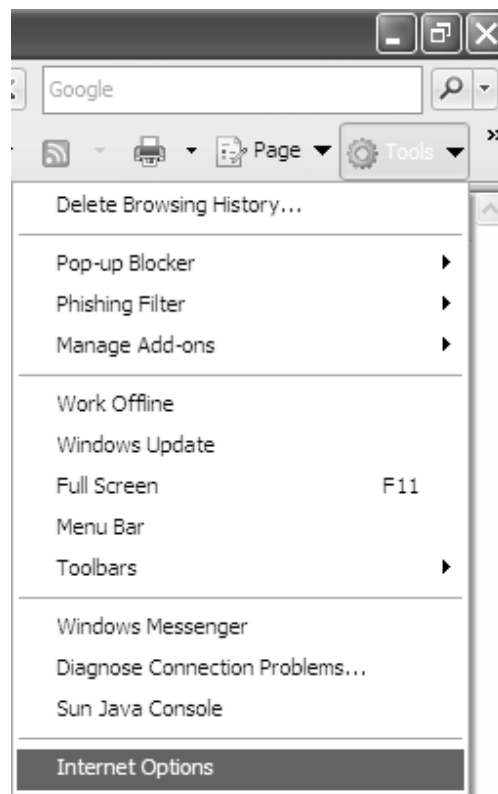


6. Select the required *Plain text font*

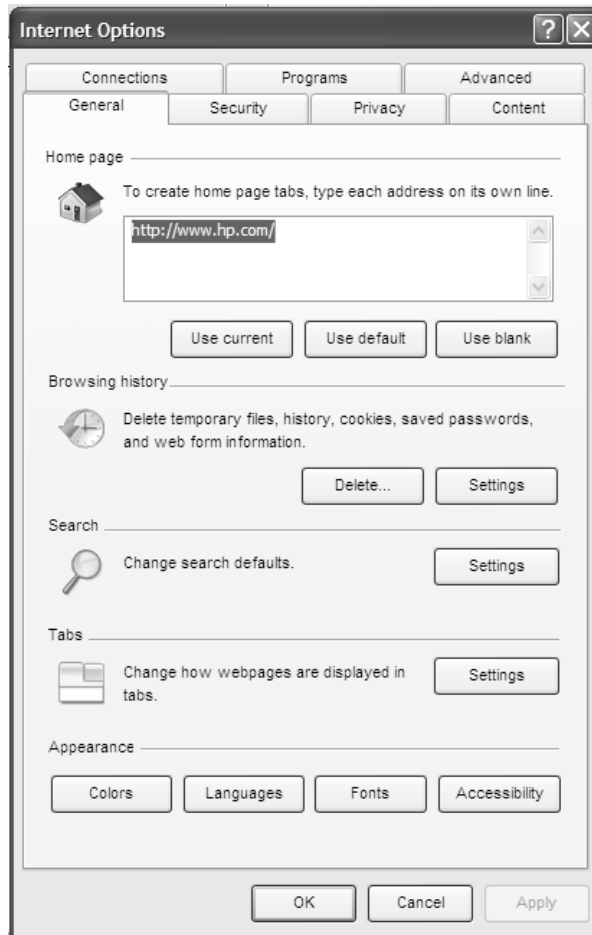
7. Click on the *OK* button

CUSTOMISING DEFAULT FONTS

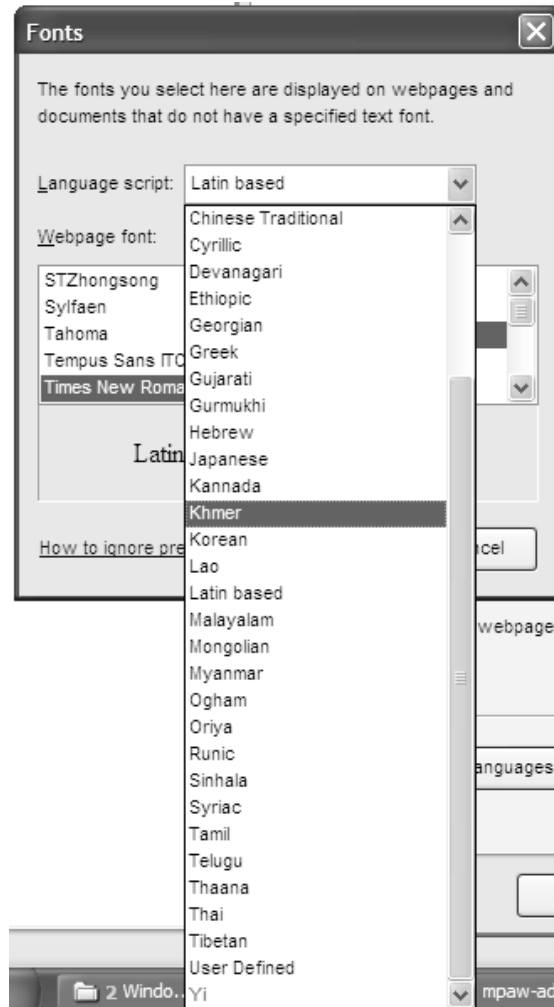
1. Click on the *Tools* button in the internet Explorer toolbar.
2. Select *Internet Options*



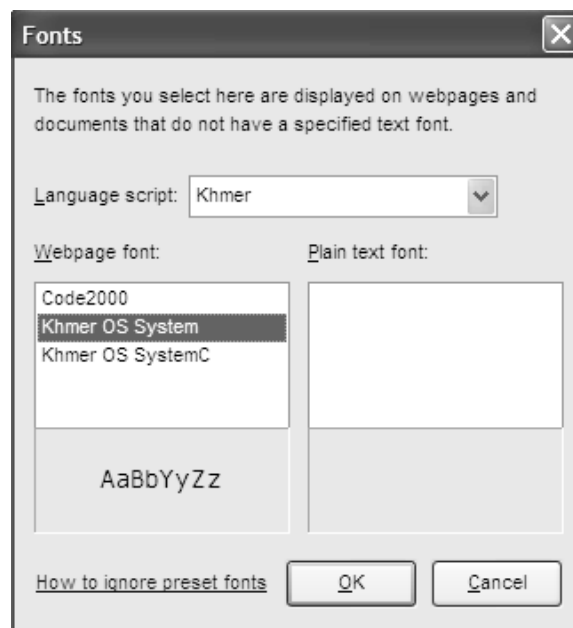
3. Click *Fonts* button



4. Select a Language script

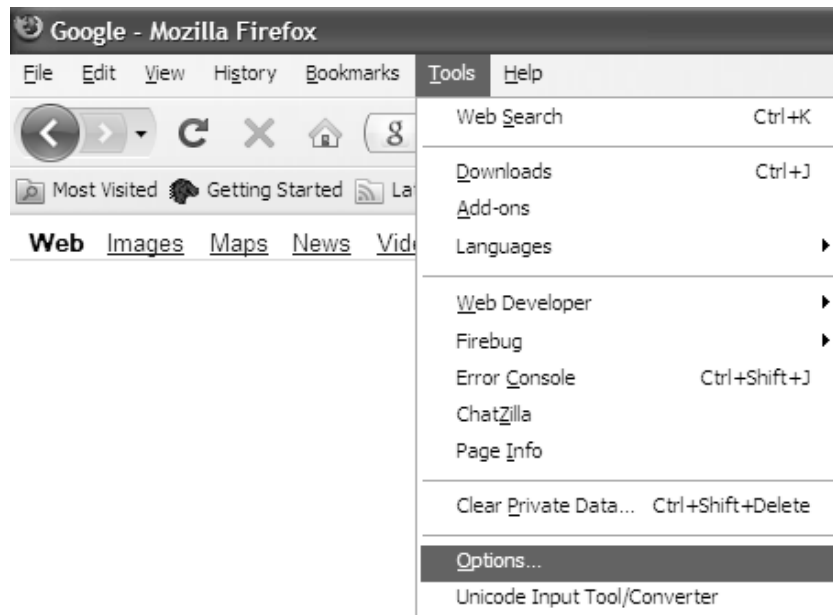


5. Select your preferred proportional font as the *Webpage font*, and select your preferred monospaced font as the *Plain text font*. N.B. Not all writing scripts will have an available monospaced font.

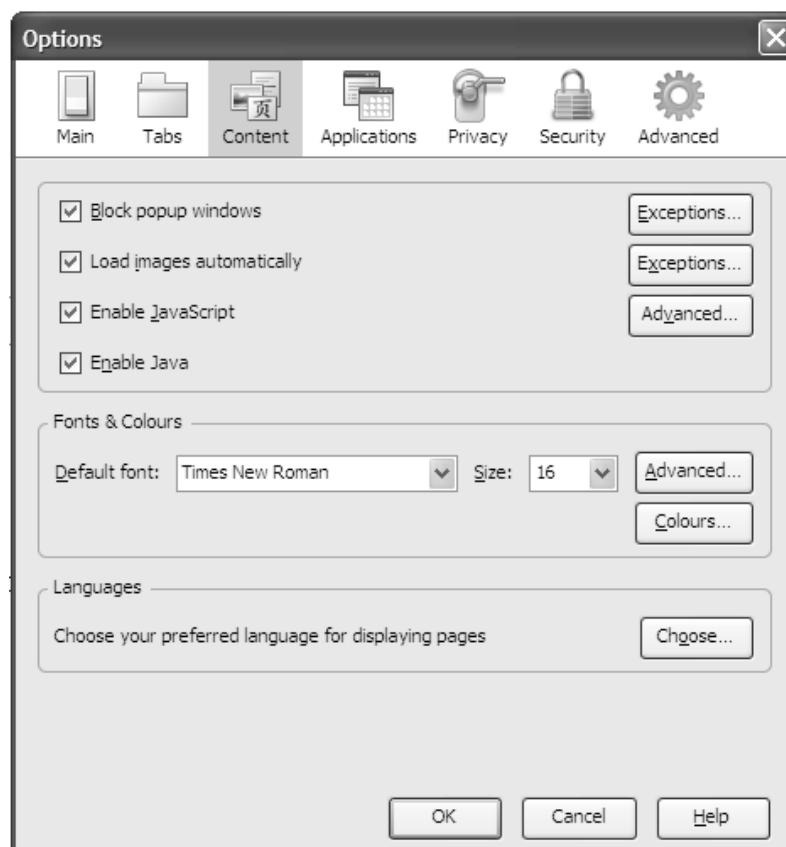


CONFIGURING PREFERRED FONTS

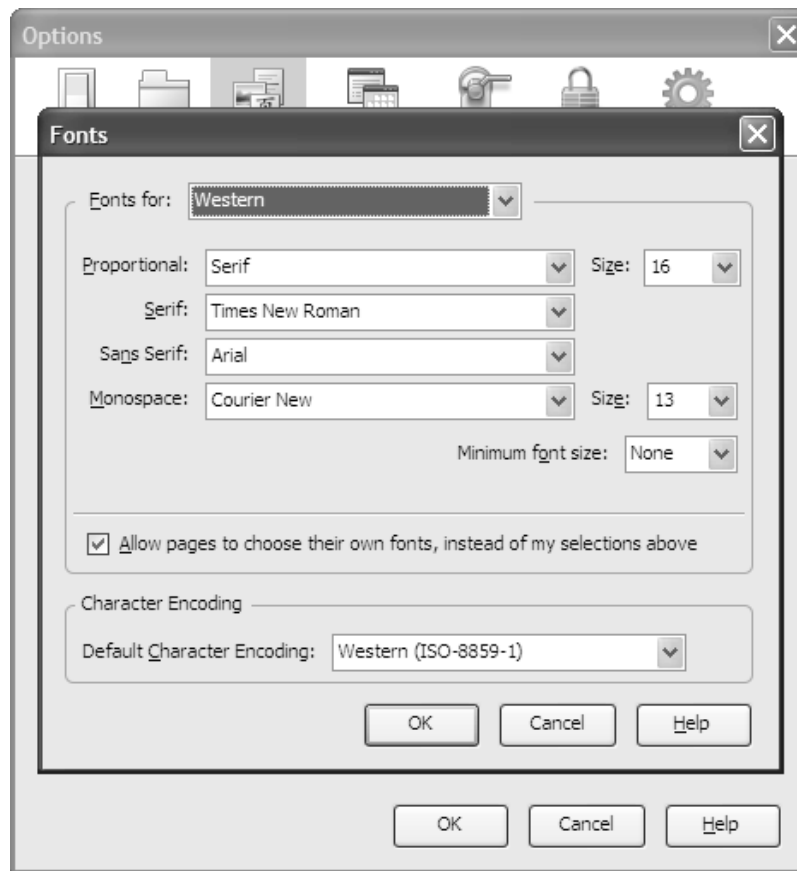
1. Select *Options* from the *Tools* dropdown menu.



2. Click on the *Content* icon in the *Options* dialog box.



3. Click on the *Advanced* button in the *Fonts & Colours* section



4. Select the writing script
5. Select appropriate fonts for each category: serif, sans serif and monospaced.
6. Set preferred style for proportional fonts (serif or sans serif)
7. Click on the *OK* button
8. Click on the *OK* button

APPENDIX

VISTA RUN COMMANDS

Command	Description
intl.cpl	Opens Regional and Language Options dialog (Formats tab)
control.exe intl.cpl	Opens Regional and Language Options dialog (Formats tab)
control.exe intl.cpl,,0	Opens Regional and Language Options dialog (Formats tab)
control.exe intl.cpl,,1	Opens Regional and Language Options dialog (Location tab)
control.exe intl.cpl,,2	Opens Regional and Language Options dialog (Keyboard and languages tab)
control.exe intl.cpl,,3	Opens Regional and Language Options dialog (Administrative tab)
control.exe Fonts	Opens Fonts folder
control.exe input.dll	Opens Text Services and Input Languages dialogue
msinfo32	Opens System Information window

WINDOWS XP RUN COMMANDS

Command	Description
intl.cpl	Opens Regional and Language Options dialog (Regional Options tab)
control.exe intl.cpl	Opens Regional and Language Options dialog (Regional Options tab)
control.exe intl.cpl,,0	Opens Regional and Language Options dialog (Regional Options tab)
control.exe intl.cpl,,1	Opens Regional and Language Options dialog (Languages tab)
control.exe intl.cpl,,2	Opens Regional and Language Options dialog (Advanced tab)
control.exe Fonts	Opens Fonts folder
control.exe input.dll	Opens Text Services and Input Languages dialogue
msinfo32	Opens System Information window
msinfo32 /category SWEnvLoadedModules	Opens System Information window to the LOADED MODULES category in SOFTWARE ENVIRONMENT
msinfo32 /categories +SWEnvLoadedModules	Opens System Information window, only providing access to the SYSTEM SUMMARY and the LOADED MODULES category in SOFTWARE ENVIRONMENT