Transliteration Map

DEVNAG font

(Hindi, Marathi, Sanskrit)

itrans

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1 Fonts Available

1.1 TEX Interface

The devanagari font *devnag* is a Metafont font, developed by Frans Velthuis.

This font is not bundled with the itrans package, but is available at many FTP sites. (The reason it is not bundled is that devnag is distributed under the GNU Public License. I do not understand the license fully, and I disagree with the parts I do understand. Anyway, to keep out of trouble I refrain from re-distributing GNU software.)

The devnag font is in a file called `devnag.tar.Z` for UNIX systems, and `devnag.zip` for MS-DOS.

Anonymous FTP sites:

`rugrcx.rug.nl (129.125.4.12), in the directory "pub"`
`june.cs.washington.edu, in the directory "/tex"`
`cs.duke.edu (128.109.140.1), in the directory "dist/sources"`

Note: This FTP site info may be out-of-date, refer to the FAQ posting in USENET newsgroup comp.text.tex for up-to-date information.

Bundled with itrans is a Metafont file (dvpn10.mf) which generates a variation of the Devnag font. If you have Metafont on your system, you may use it to generate the PK and TFM files for TEX. This variation was developed by Thomas Ridgeway, and in his words, it is "a trivial variation of dvng10.mf to resemble devanagari written with an ordinary writing pen". Looks nice, so I have included the dvpn10.mf file here.

Note that the *dvpn10.mf* file alone is insufficient to generate the TEX font, the complete devnag package is required to make it usable. And, you must know enough about Metafont to run it.

Important: *itrans cannot automatically handle all the ligatures present in the devnag font. The itrans package is limited in in that only two-consonant ligatures can be supported. The Devnag font does contain many*

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three- and four- consonant ligatures, none of which can be printed using itrans. See the section titled "Limitations" for more details.

1.2 Dumb Textual Interface

Since this is a TeX font, this interface cannot be used. (The Dumb interface directly produces PostScript code, but currently I have not located any Metafont to PostScript convertor, so this interface cannot be used for Metafont fonts.)

2 Sanskrit (or Hindi) and Marathi

Two IFM files are provided with with this font.

The first IFM file is called *dvng.ifm*, and is meant to be used for text that has to be printed out in Sanskrit or Hindi.

The second IFM file is called *mdvng.ifm*, and is meant to be used for text that has to be printed out in marathi.

The only difference between mdvng.ifm and dvng.ifm is in the treatment of *ra-<consonant>* ligatures. The marathi file uses the marathi form of ra-half, while the dvng.ifm file uses the hindi form.

Note that both the IFM files may be referenced in one input file, as is done in this file (*devn.itx*).

Examples using dvng.ifm: rka⇒र्क, rki⇒र्कि, rgii⇒र्गी.

Examples using mdvng.ifm: rka⇒र्क, rki⇒र्कि, rgii⇒र्गी.

3 Font Developer

This font has been created by Frans Velthuis. I would like to thank him for making it available as freeware.

```
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e-mail address:  velthuis@RUGRCX.RUG.NL (Frans J. Velthuis)
```

4 Limitations

As mentioned in the first section, *itrans* makes use of only a subset of the ligatures available in the Devnag font. *itrans* only recognizes two-consonant
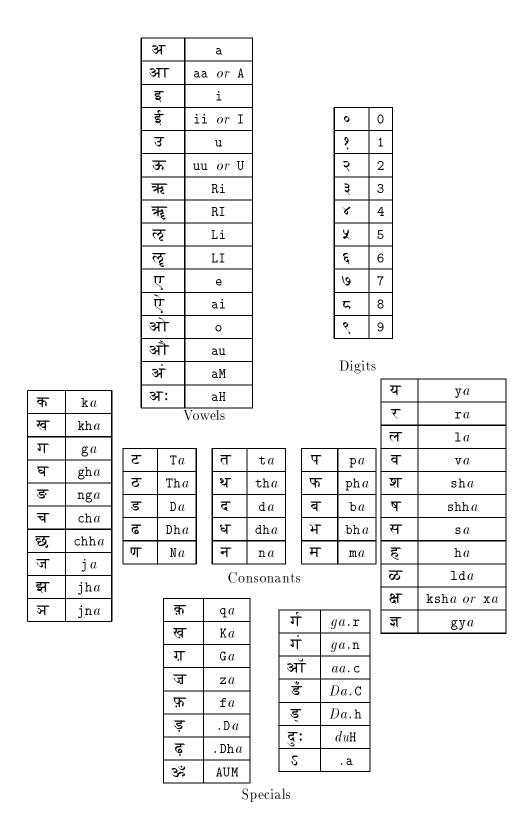
Vowels

अ	a
आ	aa *or* A
इ	i
ई	ii *or* I
उ	u
ऊ	uu *or* U
ऋ	Ri
ॠ	RI
ऌ	Li
ॡ	LI
ए	e
ऐ	ai
ओ	o
औ	au
अं	aM
अः	aH

Digits

०	0
१	1
२	2
३	3
४	4
५	5
६	6
७	7
८	8
९	9

Consonants

क	ka	ट	Ta	त	ta	प	pa	
ख	kha	ठ	Tha	थ	tha	फ	pha	
ग	ga	ड	Da	द	da	ब	ba	
घ	gha	ढ	Dha	ध	dha	भ	bha	
ङ	nga	ण	Na	न	na	म	ma	
च	cha							
छ	chha							
ज	ja							
झ	jha							
ञ	jna							

य	ya
र	ra
ल	la
व	va
श	sha
ष	shha
स	sa
ह	ha
ळ	lda
क्ष	ksha *or* xa
ज्ञ	gya

Specials

क़	qa
ख़	Ka
ग़	Ga
ज़	za
फ़	fa
ड़	.Da
ढ़	.Dha
ॐ	AUM

गँ	ga.r
गं	ga.n
ऑ	aa.c
डँ	Da.C
ड़	Da.h
दुः	duH
ऽ	.a

Figure 1: **Marathi to English Transliteration Table.**

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क का कि की कु कू	ka kaa ki kii ku kuu
स सा सि सी सु सू	sa saa si sii su suu
खृ खे खै खं खः खॅ खँ	khRi khe khai khaM khaH kha.c kha.C
डे डै डं डः डॅ डँ	De Dai DaM DaH Da.c Da.C

<div align="center">Sample Letters</div>

भाग्य	bhaa{g}ya	कस्तुरी	kasturii
राज्य	raajya	नास्तिक	naastika
विद्या	vidyaa	प्राप्त	praapta
शिष्य	shishhya	स्वतंत्र	svata.ntra
मुख्य	mukhya	स्वातंत्र्य	svaata.ntr{}ya
गाड्या	gaaDyaa	ध्वनी	dhvanii
त्याग	tyaaga	गोष्ट	goshhTa
ध्यान	dhyaana	युद्ध	yuda.hdha
न्याय	nyaaya	युद्ध	yuddha
श्याम	shyaama	पश्चिम	pashchima
ज्योत	jyota	फक्त	phakta
मनुष्य	manushhya	तर्हा	tarhaa
चांदण्या	chaa.ndaNyaa	अर्थ	artha
अभ्यास	abhyaasa	कर्ता	kartaa
कल्याण	kalyaaNa	गर्दी	gardii
घड्याळ	ghaDyaalda	निर्णय	nirNaya
कच्चा	kachchaa	पत्र	patra
खड्डा	khaDa.hDaa	त्रिकोण	trikoNa
खड्डा	khaDDaa	श्रावण	shraavaNa
गठ्ठा	gaThThaa	आश्रम	aashrama
धक्का	dhakkaa	शुश्रूषा	shushruushhaa
पत्ता	pattaa	ग्रंथ	gra.ntha
तिप्पत	tippata	प्रजा	prajaa
पन्नास	pannaasa	द्राक्षे	draakshe
सज्जन	sajjana	गृहस्थ	gRihastha
पुस्तक	pustaka	प्रकृती	prakRitii

<div align="center">Sample Words</div>

<div align="center">Figure 2: **Examples**</div>

नैर्ऋत्य	naiRi{\kern-0.45em}.r{\kern0.45em}tya
शुभ्र	shubhra
सहस्त्र	sahastra
क्रीडा	kriiDaa
स्वच्छ	svachchha
स्वरूप	svaruupa
ट्रक	Traka
आम्ही	aamhii
चतुर्थी	chaturthii
ऋतू	Rituu
ऑक्टोबर	aa.cktobara
नोव्हेंबर	novhe.nbara
ग्रॅम	gra.cma
ऊँचा	uu.Cchaa
बैलगाडी	bailagaaDii
गुरुद्वारा	guruda.hvaaraa
गुरुद्धारा	gurudvaaraa
निराळ्या	niraaldyaa
ज्ञान	gyaana
मेकॅनिक	meka.cnika
म्हैस	mhaisa
देणार्या	deNaaryaa
प्रतिष्ठा	pratishhThaa
इतिहास	itihaasa
आस्थाबद्ध	aasthaabaddha
अंतर्राष्ट्रीय	a.ntaraa.rshhTriiya

Figure 3: **Examples**

ligatures, any ligature of more than two consonants is ignored.

The two tables (in figures 4 and 5) display the ligatures that are being used and those that are ignored. All the ra-<consonant> and <consonant>-ra ligatures are not displayed in the available list, but they are handled by itrans correctly.

Figure 5 displays ligatures that are not used, along with their decimal character codes (font positions). I mentioned that these ligatures are not supported by itrans, since itrans cannot recognize three or more consonants in a sequence as a single ligature. But, it is possible to assign unused input tokens to represent the ligatures in figure 5. This requires knowing what unused tokens exist, and knowledge to modify the IFM file. See the technical manual (tech.tex) for details regarding the IFM file. Unused tokens could be one that you do not plan using in yout input text (`jna, gya,` etc) or tokens that itrans recognizes for other languages (tamil: `R, n^,` etc). The procedure would be to replace unused input tokens so as to print out the required ligature.

[abc] Will provide more details in later releases......

क क	kka	क्क					ब न	bna	ब्न
क त	kta	क्त	ठ य	Thya	ठ्य		ब ब	bba	ब्ब
क न	kna	क्न	ड ग	Dga	ड्ग		ब व	bva	ब्व
क म	kma	क्म	ड घ	Dgha	ड्घ		भ न	bhna	भ्न
क य	kya	क्य	ड ड	DDa	ड्ड		म न	mna	म्न
क ल	kla	क्ल	ड म	Dma	ड्म		म ल	mla	म्ल
क व	kva	क्व	ड य	Dya	ड्य		ल ल	lla	ल्ल
क श	ksha	क्ष	ढ य	Dhya	ढ्य		व न	vna	व्न
घ न	ghna	घ्न	त त	tta	त्त		श च	shcha	श्च
ङ क	ngka	ङ्क	त न	tna	त्न		श न	shna	श्न
ङ ख	ngkha	ङ्ख	त र	tra	त्र		श ब	shba	श्ब
ङ ग	ngga	ङ्ग	द ग	dga	द्ग		श र	shra	श्र
ङ घ	nggha	ङ्घ	द घ	dgha	द्घ		श ल	shla	श्ल
ङ ङ	ngnga	ङ्ङ	द द	dda	द्द		श व	shva	श्व
ङ न	ngna	ङ्न	द ध	ddha	द्ध		ष ट	shhTa	ष्ट
ङ म	ngma	ङ्म	द न	dna	द्न		ष ठ	shhTha	ष्ठ
ङ य	ngya	ङ्य	द ब	dba	द्ब		स न	sna	स्न
च च	chcha	च्च	द भ	dbha	द्भ		ह ण	hNa	ह्ण
च ञ	chjna	च्ञ	द म	dma	द्म		ह न	hna	ह्न
छ य	chhya	छ्य	द य	dya	द्य		ह म	hma	ह्म
ज ञ	jjna	ज्ञ	द व	dva	द्व		ह य	hya	ह्य
ञ च	jncha	ञ्च	ध न	dhna	ध्न		ह र	hra	ह्र
ञ ज	jnja	ञ्ज	न न	nna	न्न		ह ल	hla	ह्ल
ट क	Tka	ट्क	प त	pta	प्त		ह व	hva	ह्व
ट ट	TTa	ट्ट	प न	pna	प्न		ज र	zra	ज्र
ट ठ	TTha	ट्ठ	प ल	pla	प्ल		फ र	phra	फ्र
ट य	Tya	ट्य					फ़ र	fra	फ़्र

Figure 4: **Ligatures Supported**

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Consonants	Ligature	Char Code	Consonants	Ligature	Char Code
क त य	त्य	197	ङ ग य	ङ्ग्य	184
क त व	त्क	198	ङ घ र	ङ्घ्र	182
क न य	क्न्य	230	ङ र य	ङ्र्य	251
क र य	क्र्य	231	द ग र	द्ग्र	237
क व य	क्व्य	204	द घ र	द्घ्र	238
क त र य	त्र्य	252	द द य	द्द्य	144
ङ क त	ङ्क्त	173	द द व	द्द्व	248
ङ क य	ङ्क्य	175	द ध य	द्ध्य	143
ङ क ष	ङ्क्ष	176	द ध व	द्ध्व	249
ङ ख य	ङ्ख्य	186	द भ य	द्भ्य	142
ङ ग य	ङ्ग्य	190	द र य	द्र्य	239
ङ घ य	ङ्घ्य	185	द व य	द्व्य	149
ङ घ र	ङ्घ्र	192	ष ट य	ष्ट्य	247
ङ क त य	ङ्क्त्य	174	ष ट व	ष्ट्व	171
ङ क ष व	ङ्क्ष्व	177	ष ट र य	ष्ट्र्य	170

Figure 5: **Ligatures NOT Supported**