

To: ISO/IEC JTC1 SC2 Working Group 2 and Unicode Technical Committee
From: Deborah Anderson and Ka'onohi Kai
Date: 10 April 2006
RE: Implementation of the Saurashtra script (N2969R2) (=L2/05-222R2)

Attached is a description of a working Saurashtra implementation available through XenoType Technologies.

In early April 2006, I wrote to Ka'onohi Kai asking if UPAKSHARA (/HAARU) presented any implementation problems, and Ka'onohi replied:

“There is no implementation problem using HAARU. Originally I disliked it being considered a separate glyph as it occurs in very specific combinations to represent sounds that are otherwise not available in the script. It is not productive. But this approach is fine, it could be argued that somebody might want to use it as a productive symbol to form new letters for transcription etc.”

(Note: The attached description places the UPAKSHARA at AB50, though the current codepoint is A8B4.)

Saurashtra glyph ૐ to express these sounds. Consequently, we caution that it may be necessary to establish four additional codepoints and that the item at U+AB50 may have to be deprecated. It is not known how, if at all, these sounds are represented in older forms of the script.

Vowels

Like most other Indic scripts, Saurashtra uses independent and dependent vowel signs. As expected, the independent vowel signs are used to express word- or syllable-initial vowels while dependent vowels are used in conjunction with base glyphs. Both forms of the 16 basic vowels are illustrated below:

ઁ-ઁ ઁ-ઁ ં-ઁ ં-ઁ ઃ-ઁ ઃ-ઁ ઄-ઁ ઄-ઁ
અ-ઁ અ-ઁ આ-ઁ આ-ઁ ઇ-ઁ ઇ-ઁ ઈ-ઁ ઈ-ઁ

As expected, the inherent vowel has no visual representation. Graphic transposition is not required to display any of these vowel signs properly so reordering of the text stream is not necessary. And although all of the dependent vowel signs are spacing glyphs, two of them, ઁ and ં, form ligatures with their base consonant. There is some variety in how a few of the uncommon vowels signs are written but these can be addressed as font design/feature issues.

There are two additional glyphs, *anusvara* and *visarga*, that we list here as vowels since they can only occur with a base glyph.

ઁ ઃ

Diacritics

The only diacritic encoded in the Saurashtra block is the *virama*.

ઁ

In the modern script, the virama occurs frequently as there is only one common conjunct (ઁ) which can be displayed in the traditional manner (ઁ+ઁ) using a ligature. It has been suggested that the virama not be visible unless followed by ZWNJ — this setup makes the most sense since older versions of the script use more conjuncts which can be supported properly with this type of implementation. Currently, our keyboard driver outputs the sequence VIRAMA+ZWNJ from the default key position for virama on standard ISCII keyboards to minimize typing.

Digits

The Saurashtra script possesses its own set of native digits with no special requirements.

૦ ૧ ૨ ૩ ૪ ૫ ૬ ૭ ૮ ૯

Punctuation

With the advent of digital type and the modernization of the Syloti Nagri script, one can expect to find all of the traditional punctuation marks: period, comma, colon, semi-colon, question mark, etc. In addition to these marks, the Devanagari single and double danda are also used with great frequency. A well designed font should include these items from the **Devanagari** block in an appropriate style.

Sample Text

Below is a sample text that illustrates modern Saurashtra and the required features for proper display. This text is taken from a short primer of the Saurashtra language.

ગરબ યજ્ઞ

પંચપભાષા ભાષા ગીતરૂપે પાલ્લીને ઉદ્ધરણને પાલ્લી,
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