

**ISO/IEC JTC 1/SC 2/WG 2  
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS  
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646<sup>1</sup>**

Please fill all the sections A, B and C below.

Please read Principles and Procedures Document (P & P) from <http://www.dkuug.dk/JTC1/SC2/WG2/docs/principles.html> for guidelines and details before filling this form.

Please ensure you are using the latest Form from <http://www.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html>.

See also <http://www.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html> for latest Roadmaps.

**A. Administrative**

|                                                                  |                                                                                         |  |  |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--|--|
| 1. Title:                                                        | <b>Request to add two characters to the Vedic Extensions block</b>                      |  |  |
| 2. Requester's name:                                             | <i>Shriramana Sharma and Deborah Anderson (Script Encoding Initiative, UC Berkeley)</i> |  |  |
| 3. Requester type (Member body/Liaison/Individual contribution): | <i>Liaison contribution</i>                                                             |  |  |
| 4. Submission date:                                              | <i>26 July 2010</i>                                                                     |  |  |
| 5. Requester's reference (if applicable):                        |                                                                                         |  |  |
| 6. Choose one of the following:                                  |                                                                                         |  |  |
| This is a complete proposal:                                     | <i>yes</i>                                                                              |  |  |
| (or) More information will be provided later:                    |                                                                                         |  |  |

**B. Technical – General**

|                                                                                                                                                                                                           |                                                                  |                                         |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------|----------|
| 1. Choose one of the following:                                                                                                                                                                           |                                                                  |                                         |          |
| a. This proposal is for a new script (set of characters):                                                                                                                                                 |                                                                  |                                         |          |
| Proposed name of script:                                                                                                                                                                                  |                                                                  |                                         |          |
| b. The proposal is for addition of character(s) to an existing block:                                                                                                                                     | <i>yes</i>                                                       |                                         |          |
| Name of the existing block:                                                                                                                                                                               | <i>Vedic Extensions</i>                                          |                                         |          |
| 2. Number of characters in proposal:                                                                                                                                                                      | <i>2</i>                                                         |                                         |          |
| 3. Proposed category (select one from below - see section 2.2 of P&P document):                                                                                                                           |                                                                  |                                         |          |
| A-Contemporary                                                                                                                                                                                            |                                                                  | B.1-Specialized (small collection)      | <i>x</i> |
| C-Major extinct                                                                                                                                                                                           |                                                                  | E-Minor extinct                         |          |
| F-Archaic Hieroglyphic or Ideographic                                                                                                                                                                     |                                                                  | G-Obscure or questionable usage symbols |          |
| 4. Is a repertoire including character names provided?                                                                                                                                                    |                                                                  |                                         |          |
| a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?                                                                                                 | <i>yes</i>                                                       |                                         |          |
| b. Are the character shapes attached in a legible form suitable for review?                                                                                                                               | <i>yes</i>                                                       |                                         |          |
| 5. Fonts related:                                                                                                                                                                                         |                                                                  |                                         |          |
| a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?                                                                                         | <i>Shriramana Sharma</i>                                         |                                         |          |
| b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):                                                                                    | <i>Shriramana Sharma, FontForge. TTF file has been submitted</i> |                                         |          |
| 6. References:                                                                                                                                                                                            |                                                                  |                                         |          |
| a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?                                                                                                               | <i>yes</i>                                                       |                                         |          |
| b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?                                                                          | <i>yes</i>                                                       |                                         |          |
| 7. Special encoding issues:                                                                                                                                                                               |                                                                  |                                         |          |
| Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)? | <i>no</i>                                                        |                                         |          |

**8. Additional Information:**

Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at <http://www.unicode.org> for such information on other scripts. Also see <http://www.unicode.org/Public/UNIDATA/UCD.html> and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

<sup>1</sup> Form number: N3702-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11)

### C. Technical - Justification

|                                                                                                                                                                |                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| 1. Has this proposal for addition of character(s) been submitted before?                                                                                       | <i>no</i>                                  |
| If YES explain                                                                                                                                                 |                                            |
| 2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?          | <i>yes</i>                                 |
| If YES, with whom?                                                                                                                                             |                                            |
| <i>Prof. Peter Scharf (user)</i>                                                                                                                               |                                            |
| If YES, available relevant documents:                                                                                                                          |                                            |
| 3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? | <i>affects Vedic and Sanskrit scholars</i> |
| Reference:                                                                                                                                                     |                                            |
| <i>see examples</i>                                                                                                                                            |                                            |
| 4. The context of use for the proposed characters (type of use; common or rare)                                                                                | <i>rare</i>                                |
| Reference:                                                                                                                                                     |                                            |
| 5. Are the proposed characters in current use by the user community?                                                                                           | <i>yes</i>                                 |
| If YES, where? Reference:                                                                                                                                      |                                            |
| <i>members of the scholarly community</i>                                                                                                                      |                                            |
| 6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?                                  | <i>yes</i>                                 |
| If YES, is a rationale provided?                                                                                                                               |                                            |
| <i>see next</i>                                                                                                                                                |                                            |
| If YES, reference:                                                                                                                                             |                                            |
| <i>fits with other characters currently encoded in BMP (in Vedic Extensions)</i>                                                                               |                                            |
| 7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?                                                        | <i>yes</i>                                 |
| 8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?                                        | <i>no</i>                                  |
| If YES, is a rationale for its inclusion provided?                                                                                                             |                                            |
| If YES, reference:                                                                                                                                             |                                            |
| 9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?               | <i>no</i>                                  |
| If YES, is a rationale for its inclusion provided?                                                                                                             |                                            |
| If YES, reference:                                                                                                                                             |                                            |
| 10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character?                                     | <i>yes</i>                                 |
| If YES, is a rationale for its inclusion provided?                                                                                                             |                                            |
| <i>yes</i>                                                                                                                                                     |                                            |
| If YES, reference:                                                                                                                                             |                                            |
| <i>One character resembles Latin "X", but it has different properties</i>                                                                                      |                                            |
| 11. Does the proposal include use of combining characters and/or use of composite sequences?                                                                   | <i>no</i>                                  |
| If YES, is a rationale for such use provided?                                                                                                                  |                                            |
| If YES, reference:                                                                                                                                             |                                            |
| Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?                                                              |                                            |
| If YES, reference:                                                                                                                                             |                                            |
| 12. Does the proposal contain characters with any special properties such as control function or similar semantics?                                            | <i>no</i>                                  |
| If YES, describe in detail (include attachment if necessary)                                                                                                   |                                            |
|                                                                                                                                                                |                                            |
|                                                                                                                                                                |                                            |
| 13. Does the proposal contain any Ideographic compatibility character(s)?                                                                                      | <i>no</i>                                  |
| If YES, is the equivalent corresponding unified ideographic character(s) identified?                                                                           |                                            |
| If YES, reference:                                                                                                                                             |                                            |

This proposal requests the encoding of two characters:

✕ 1CF5 VEDIC SIGN JIHVAMULIYA and

𑖀 1CF6 VEDIC SIGN UPADHMANIYA, with properties as given below.

1CF5;VEDIC SIGN JIHVAMULIYA;Lo;0;L;;;;;N;;;;;

1CF6;VEDIC SIGN UPADHMANIYA;Lo;0;L;;;;;N;;;;;

#### JUSTIFICATION

The justification for encoding separate characters for Vedic (and Sanskrit), is based on the discussion contained in L2/09-342, which recommended the disunification of VEDIC SIGN JIHVAMULIYA and VEDIC SIGN UPADHMANIYA from the KANNADA forms (0CF1 KANNADA SIGN JIHVAMULIYA and 0CF2 KANNADA SIGN UPADHMANIYA).

#### GLYPH SHAPES

According to Max Müller (citing Vopadeva, an Indic grammarian), the earlier forms of JIHVAMULIYA and UPADHMANIYA appear as ✕ and 𑖀 (see Figure 1). These shapes are used in this proposal.

The range of shapes used in Sanskrit is shown in Figure 2.

#### FIGURES

§ 7. Two sounds, the guttural and labial sibilants, are now without distinctive representatives in the Devanâgarî alphabet. They are called *Jihvâmûliya*, the tongue-root sibilant, formed near the base of the tongue; and *Upadhmanîya*, i. e. afflandus, the labial sibilant. They are said to have been represented by the signs ✕ (called *Vajrâkṛiti*, having the shape of the thunderbolt) and 𑖀 (called *Gajakumbhâkṛiti*, having the shape of an elephant's two frontal bones). [See Vopadeva's Sanskrit Grammar, I. 18; History of Ancient Sanskrit Literature, p. 508.] Sometimes the sign 𑖀, called *Ardha-visarga*, half-Visarga, is used for both. But in common writing these two signs are now replaced by the two dots, the *Dvivindu*, ∴, (*dvi*, two, *vindu*, dot,) properly the sign of the unmodified Visarga. The

Figure 1: Müller, F. Max. *Sanskrit Grammar for Beginners*, 1870, page 3.

| References                                                                                                                                     | Jihvāmūliya | Upadhmāniya |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|
| F. Max Müller, <i>A Sanskrit Grammar for beginners</i> , 1870, p.5;<br>F. Kittel, <i>A Kannada-English Dictionary</i> , 1894, p.xii (for Skr.) | ×           | ३३          |
| F. Kittel, <i>op. cit.</i> , p.xii & s.v. (for Kannada)                                                                                        | ⌘ or ×      | ○○          |
| <i>Journal of the Bihar and Orissa Research Society</i> ,<br>transliteration table                                                             | ×           | ) (         |
| Anshuman Pandey, devchars.pdf                                                                                                                  | ) (         | ) (         |
| <i>ALA-LC Romanization Tables</i> , 1997, 'Sanskrit and Prakrit'                                                                               | ) (         | ) (         |
| ISCII - 1991, pp.23, 24                                                                                                                        | ×           | ×           |
| G. Bühler, <i>Leitfaden für den Elementarcursus des Sanskrit</i> ,<br>1883, Schrifttafel                                                       | ×           | ५८          |

|                                                                                  |     |     |
|----------------------------------------------------------------------------------|-----|-----|
| H. T. Colebrooke, <i>A Grammar of the Sanskrit Language</i> , 1805,<br>p.2       | ५८  | ५८  |
| A. A. Macdonell, <i>A Sanskrit Grammar for Students</i> <sup>3</sup> , 1927, p.4 | ) ( | ) ( |

Note: ५८ is Ardhasvarga, and ) ( is presumably a variant form.

A.P.Stone April 28, 2000

Figure 2: From <http://homepage.ntlworld.com/stone-catend/Jihvupadh.pdf>, website by Anthony Stone