Proposal to encode the Prishthamatra for Sharada

Srinidhi A  Sridatta A
srinidhi.pinkpetals24@gmail.com  sridatta.jamadagni@gmail.com

October 13, 2017

1 Introduction
This document requests to add a new character to the Sharada block.

<table>
<thead>
<tr>
<th>Glyph</th>
<th>Code</th>
<th>Character name</th>
</tr>
</thead>
<tbody>
<tr>
<td>🇮arı</td>
<td>111CE</td>
<td>SHARADA VOWEL SIGN PRISHTHAMATRA E</td>
</tr>
</tbody>
</table>

2 Description
The Prishthamatra is a vowel sign used in early and medieval Sharada documents along with regular forms. In the historic Prishthamatra orthography, the vowel signs for e, ai, o, and au are also represented using vowel sign prishthamatra e (which goes on the left side of the consonant) alone or in combination with U+111BC SHARADA VOWEL SIGN E, 111B3 SHARADA VOWEL SIGN AA. It corresponds to ॎ U+094E DEVANAGARI VOWEL SIGN PRISHTHAMATRA E. In similar way Prishthamatra is proposed for Sharada. The table given below provides the comparison of Prishthamatra and regular Orthography.

<table>
<thead>
<tr>
<th>Vowel Sign</th>
<th>Prishthamatra Orthography</th>
<th>Regular Orthography</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>e</td>
<td>🇮arı&lt;111CE&gt;</td>
<td>ॎ</td>
<td>ṣe</td>
</tr>
<tr>
<td>ai</td>
<td>🇮arı&lt;111CE, 111BC&gt;</td>
<td>ॎ</td>
<td>ṭai</td>
</tr>
<tr>
<td>o</td>
<td>🇮arı&lt;111CE, 111B3&gt;</td>
<td>ॎ</td>
<td>ṭo</td>
</tr>
<tr>
<td>au</td>
<td>🇮arı&lt;111CE, 111B3, 111BC&gt;</td>
<td>ॎ</td>
<td>ṭhau</td>
</tr>
</tbody>
</table>

The use of prishthamatra declined in the 15th century as documented by Jonaraja of Kashmir in his work Dvitiya Rājatarāṅgini.

The vowel sign o can be written in three ways 🇮arı, ṭarı and ॎ.
3 Character Data

3.1 Character Properties In the format of UnicodeData.txt:

111CE; SHARADA VOWEL SIGN PRISHTHAMATRA E;Mc;0;L;;;;;N;;;;;

3.2 Syllabic Categories In the format of IndicSyllabicCategory.txt:

# Indic_Syllabic_Category=Vowel_Dependent

111CE; Vowel_Dependent # Mc SHARADA VOWEL SIGN PRISHTHAMATRA

3.3 Positional Categories In the format of IndicPositionalCategory.txt:

111CE; Left # Mc SHARADA VOWEL SIGN PRISHTHAMATRA E

Other properties are similar to that of Devanagari.

4 References

5 Attestations

Figure 1. Use of PRISHTHAMATRA E along with regular forms in Hund Inscription of Kāmeśvarī Devī (from IndoSkript).

Figure 2. Use of PRISHTHAMATRA E for e along with regular forms in Bakhshali manuscript (from IndoSkript).

Figure 3. Use of PRISHTHAMATRA E for ai in Bakhshali manuscript (from IndoSkript).
Figure 4. Use of PRISHTHAMATRA E for o in Bakhshali manuscript (from IndoSkript).

Figure 5. Use of PRISHTHAMATRA E in the Inscription of the Reign of Queen Didda, Srinagar dated 992 CE (from IndoSkript).

Figure 6. Use of PRISHTHAMATRA E in the Arigom inscription of Ramadeva dated 1197 CE. This also

inscription also illustrates three forms of Vowel Sign O as in lo
5. The medial e is expressed either by the prṣṭhāmātṛā or by the superscribed stroke above the consonant. The former is important as it constitutes an important proof of the age of the manuscript. The practice of forming the medial e by the prṣṭhāmātṛā had become obsolete in Kashmir in the 15th century as is attested to by the evidence of Jonarāja who while recounting an anecdote regarding a forgery in a deed of sale (vikrayapatṭraka) remarks, “in order to express the e following a consonant the clerks formerly used to write a stroke behind the consonants. But as in course of time the script (lipi) became changed, the writers of today write the stroke expressing e over the consonant.” This would show that our manuscript where the earlier method is frequently employed must belong to a period earlier than the 15th century. The above evidence of Jonarāja is corroborated by the rare use of prṣṭhāmātṛā in forming the medial e in the later Śāradā manuscripts where the prṣṭhāmātṛā, as will be subsequently shown is restored to only occasionally to denote the medial ai.

Figure 8. Jonaraja’s documentation about Prishthamatra (from Deambi 1982: 74).
Figure 9. Use of Prishthamatra in the manuscript of Abhidharmadīpa, ca. the 11th Century.
Figure 10. Use of Prishtamatra in the manuscript of Abhidharmadīpa, ca. the 11th Century.
Figure 11. Use of Prishthamatra in the Sharada inscriptions of 8th-10th centuries CE (from Deambi, 1982).
Figure 12. Use of Prishthamatra in the Sharada inscriptions of 11th-13th centuries CE (from Deambi, 1982).
Figure 13. Use of Prishthamatra in the Sharada inscriptions of 14th-16th centuries CE (from Deambi, 1982).
Table No. 5c

The Śāradā Alphabet in Manuscripts

12th-16th Century

Medial Vowels

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bakhshali MS c. 12th cent.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms. of Muni-Mata Mani-Mālā c. 14th cent.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms. of Sununtala c. 16th cent.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms. of Adi-Sabhā Parvan of Mahābhārata c. 16th cent.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms. of Kathā-Sārīt Sāgara c. 16th cent.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms. of Bāl Bhūmihār H. 1158 (A.D. 1145)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 14. Use of Prishthamatra in the Sharada manuscripts of 14th-16th centuries CE (from Deambi, 1982).
ISO/IEC JTC 1/SC 2/WG 2

PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS

FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646

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


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

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

A. Administrative

<table>
<thead>
<tr>
<th>1. Title:</th>
<th>Proposal to encode the Prishthamatra for Sharada</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Requester’s name:</td>
<td>Srinidhi A and Sridatta A</td>
</tr>
<tr>
<td>3. Requester type (Member body/Liaison/Individual contribution):</td>
<td>Individual contribution</td>
</tr>
<tr>
<td>4. Submission date:</td>
<td>October 13, 2017</td>
</tr>
<tr>
<td>5. Requester’s reference (if applicable):</td>
<td></td>
</tr>
<tr>
<td>6. Choose one of the following:</td>
<td></td>
</tr>
<tr>
<td>(or) More information will be provided later:</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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: | Yes |
| Name of the existing block: | Sharada |
| 2. Number of characters in proposal: | 1 |
| 3. Proposed category (select one from below - see section 2.2 of P&P document): | |
| A-Contemporary | B.1-Specialized (small collection) | B.2-Specialized (large collection) | X |
| C-Major extinct | D-Attested extinct | E-Minor extinct |

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? Yes
   b. Are the character shapes attached in a legible form suitable for review? Yes

5. Fonts related:
   a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?

   Anshuman Pandey

   b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):

   Anshuman Pandey<pandey@umich.edu>

6. References:
   a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? Yes
   b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached? Yes

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)? Yes

See the text of the proposal

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 Unicode Character Database (http://www.unicode.org/reports/tr44/) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.
### C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before?  
   **No**

   *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.)?  
   **No**

   *If YES, with whom?*

   *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?  
   **N/A**

   *Reference:*

4. The context of use for the proposed characters (type of use; common or rare)  
   **Common**

   *Reference:*

5. Are the proposed characters in current use by the user community?  
   **No**

   *If YES, where? Reference:*

6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?  
   **N/A**

   *If YES, is a rationale provided?*

   *If YES, reference:*

7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?  
   **N/A**

8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?  
   **No**

   *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?  
   **No**

   *If YES, is a rationale for its inclusion provided?*

   *If YES, reference:*

---

14
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to, or could be confused with, an existing character?  
   If YES, is a rationale for its inclusion provided?  
   If YES, reference:

<table>
<thead>
<tr>
<th></th>
<th>No</th>
</tr>
</thead>
</table>

11. Does the proposal include use of combining characters and/or use of composite sequences?  
   If YES, is a rationale for such use provided?  
   If YES, reference: See the text of proposal

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
</tr>
</thead>
</table>

Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?  
   If YES, reference: N/A

<table>
<thead>
<tr>
<th></th>
<th>N/A</th>
</tr>
</thead>
</table>

12. Does the proposal contain characters with any special properties such as control function or similar semantics?  
   If YES, describe in detail (include attachment if necessary)

<table>
<thead>
<tr>
<th></th>
<th>No</th>
</tr>
</thead>
</table>

13. Does the proposal contain any Ideographic compatibility characters?  
   If YES, are the equivalent corresponding unified ideographic characters identified?  
   If YES, reference:

<table>
<thead>
<tr>
<th></th>
<th>No</th>
</tr>
</thead>
</table>