

**To: Unicode Technical Committee**  
**Title: Recommendations to UTC from Script Meeting in Nepal**  
**Author: Deborah Anderson, SEI, UC Berkeley**  
**Date: 6 October 2014**

**Summary:**

The recommendations below reflect the results of discussions held during the meetings held from 4-6 October 2014 at the Microsoft Innovation Center in Kathmandu, Nepal. They are intended to serve as a way to help move the overall discussion forward on the script proposals for various scripts used in Nepal. Feedback from the UTC is sought.

**Attendees from meetings on 4-6 October 2014:**

Sharad Kasa 'Kasa Chen'; Dr. Tejratna Kansakar; Kashinath Tamot; Devdas Manandhar; Bishnu Chitrakar; Pratapman Shakya; Madhav Syasya; Sharad Kasa; Anil Sthapit; Deborah Anderson; Peter Constable; Sameer Karmacharya; Sonika Manandhar; Rabindra Pachhai; Rajendra Shakya; Pundarika Shakya; Suresh Kiran Manandhar Navin Shrestha; Ashoknanda Bajracharya  
(See also the list of affiliations for the attendees in Appendix, which includes those that attended the 7 October 2014 event.)

**I Nepaalalipi**

**1. SCRIPT NAME**

The preferred script name is Nepaalalipi. If this is deemed to be controversial, the following names are acceptable (in order of preference): Newaa, Nepaala, Nepaa.

**2. CHARACTERS PROPOSED**

The following characters are recommended to be included in the repertoire:

[Independent vowels]

Option 1: The preference among the user community is to encode the following 24 vowel combinations (plain vowel, with liphuti [visarga], with milaaphuti [candrabindu], with sinhaphuti [anusvara]):

- A, LONG A, NASAL A, LONG NASAL A
- AA, LONG AA, NASAL AA, LONG NASAL AA
- I, LONG I, NASAL I, LONG NASAL I
- U, LONG U, NASAL U, LONG NASAL U
- E, LONG E, NASAL E, LONG NASAL E
- O, LONG O, NASAL O, LONG NASAL O

Option 2: If encoding the 24 vowel characters is deemed problematic, they would accept the using the plain vowels (A, AA, I, U, E, and O) with the formants (liphuti [visarga], with milaaphuti [candrabindu], with sinhaphuti [anusvara]), except for long I and long U. For LETTER II and LETTER UU the atomic characters should be encoded, but users should key in the letter I (or U) and the liphuti [visarga], in order to display the LONG I/U characters.

The following LETTER characters would be encoded under this option:

- A, AA, I, II, U, UU,
- VOCALIC R, VOCALIC RR

VOCALIC L, VOCALIC LL  
E, O

[Consonants]

NOTES:

- a The user community at the meeting indicated a preference for naming the consonants “K”; if this is problematic, they would accept “KA”, “KHA” (etc.)
- b. The user community feels strongly the 6 breathy consonants (NGH, NJH, NH, MH, RH, LH) should be atomically encoded. They are found initially in headwords in dictionaries, including *A Dictionary of Classical Newari* by K.P. Malla (Kathmandu, 2000).
- c. They prefer the names NJ (vs NY), but would accept NY.
- d. The name W is the preferred name over V, as the language has no /v/ sound.
- e. The preferred order is listed below, although the retroflex characters will have secondary weighting in collation.

K, KH, G, GH, NG, NGH, C, CH, J, JH, NJ, NJH, T, TT, TH, TTH, D, DD, DH, DDH, N, NN,  
NH, P, PH, B, BH, M, MH, Y, R, RH, L, LH, W, S, SH, SS, H

[Dependent vowel signs]

AA, I, II,

U, UU,

VOCALIC R, VOCALIC RR,

VOCALIC L, VOCALIC LL

E, AI,

O, AU

[Various signs]



TUTISAALAA

--virama



MILAAPHUTI

--candrabindu



SINHAPHUTI

--anusvara



LIPHUTI

--visarga



SULAA


--avagraha


[Invocation signs]


 OM


 SIDDHI


[Punctuation]


 DIPU  
--danda


 JHAASU  
--comma


 BAADIPU  
--used as a semicolon; preferred glyph is that shown for final anusvara

 THAAYJAAYEKAA  
--gap filler, also has other uses

 JAAYEKAA  
--placeholder mark

 SWAAPU  
--word break symbol

 MHUSAA  
--marks deletion, is a combining character

 TANSAA  
--insertion mark

[Digits]

DIGIT ZERO

--guli

DIGIT ONE

--chi

DIGIT TWO

--nasi

DIGIT THREE

--swa

DIGIT FOUR

--pi

DIGIT FIVE

--nja

DIGIT SIX

--khu

DIGIT SEVEN

--nhasa

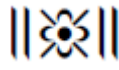
DIGIT EIGHT

--cyaa


DIGIT NINE

--gu

[Various signs]

 SWAAN

\*flower

Notes: Always appears with two vertical marks on both sides; if this is problematic, the users would accept only encoding the flower , and use dandas to represent the vertical marks

### 3. CHARACTERS REMOVED

The following characters were removed at this time. If additional evidence or technical rationale is provided, they may be eligible for addition.

[Independent vowels]

 LETTER AI

--represent by A and dependent I; removed as the atomic encoding was felt it would create collation problems

 LETTER AU

--represent by A and dependent U; removed as the atomic encoding was felt it would create collation problems

[Various signs]

 NUKTA

--considered confusing to modern users

 FINAL ANUSVARA

--should be “BAADIPU”; renamed to BAADIPU with this glyph and proposed (above)

[Invocation signs]

 SVASTI

-- part of a pair; deemed controversial

[Punctuation]

 DOUBLE DANDA

--used to indicate final stop; to represent this character, use two dandas

 DOUBLE COMMA

--preferred glyph is that shown for FINAL ANUSVARA, renamed BAADIPU with FINAL ANUSVARA glyph

 HIGH SPACING DOT

--used as a comma, used by one individual

 ABBREVIATION SIGN CIRCLE

--used to indicate “etc.”. If this can be represented by another character (such as U+2E30 RING POINT or U+02DA RING ABOVE), that would be acceptable. If a script-specific character is recommended, it should be included in the repertoire with the name LISAA

 ABBREVIATION SIGN CROSS

--remove; use “x” 0078 or another generic “x” character

[Various signs]

 VAJRA

--not used or rarely used

## ***II. Ranjana***

### **1. CHARACTERS PROPOSED**

The repertoire for Ranjana is close to that for Nepaalalipi. Hence the outcome of the discussion on certain issues in Nepaalalipi will affect the repertoire for Ranjana (including the number of vowel letters to be encoded, the six breathy consonants, and the removal of AI /AU letters).

[Vowels]

NOTE: The users at the meeting prefer encoding the 24 vowels (as in Nepaalalipi), Option 1 below. However, if this is not possible, encode plain vowels with the formants (candrabindu, anusvara, and visarga), Option 2 below.

Option 1:

A, LONG A, NASAL A, LONG NASAL A

AA, LONG AA, NASAL AA, LONG NASAL AA

I, LONG I, NASAL I, LONG NASAL I  
U, LONG U, NASAL U, LONG NASAL U  
E, LONG E, NASAL E, LONG NASAL E  
O, LONG O, NASAL O, LONG NASAL O

Option 2:

The following LETTER characters would be encoded in this option:

A, AA, I, II, U, UU,  
VOCALIC R, VOCALIC RR  
VOCALIC L, VOCALIC LL  
E, O

[Consonants]

(Note: See comments on Nepaalalipi consonants)

K, KH, G, GH, NG, NGH, C, CH, J, JH, NJ, NJH, T, TT, TH, TTH, D, DD, DH, DDH, N, NN,  
NH, P, PH, B, BH, M, MH, Y, R, RH, L, LH, W, S, SH, SS, H

[Various signs]



CANDRABINDU

--milaaphuti



ANUSVARA

--sinhaphuti



VISARGA

--liphuti

[Dependent vowel signs]

AA, I, II, U, UU, VOCALIC R, VOCALIC RR,  
VOCALIC L, VOCALIC LL, E, AI, O, AU

[Various signs]



VIRAMA

--tutisalaa

[Digits]

DIGIT ZERO, DIGIT ONE, DIGIT TWO, DIGIT THREE, DIGIT FOUR, DIGIT FIVE, DIGIT SIX,  
DIGIT SEVEN, DIGIT EIGHT, DIGIT NINE

[Punctuation]



[glyph to be provided] DANDA

--dipu



--lidipu; appears at end of sutras



-- kicadipu, only used with visarga; a variant of danda (dipu)

DOUBLE DANDA

--nidipu



--nhyagwa



LINEBREAKING MARK

-- twaathalaa

[glyph to be provided] SYMBOL HAXAMALAWARAYAN

## 2. CHARACTERS REMOVED



LETTER AI and



LETTER AU (see comments under Nepaalalipi characters removed)

Note: Many other symbols appear in Ranjana and will likely be proposed later. How to deal with the vertical stacking in KUTAAKSARA should be discussed at a future point.

## III. BHUJINMOLA

A document explaining why Bhujinmola should be encoded separately, and not handled as a font change, will be prepared and submitted to the Unicode Technical Committee. The document will outline specific rendering issues of Bhujinmola, which would not be supported if the script was a font change for Nepaalalipi.

## IV. POTENTIAL ISSUES FOR UTC

1. Handling of vowel letters and how best to represent LONG I and LONG U?

2. Encoding recommendations for LETTER AI and LETTER AU (not proposed by the user community at this point). What specific collation-related information can the user community provide in order for the UTC to arrive at a good solution?
3. Breathy consonants as atomic characters
4. Names of consonants (KA vs K, NJ vs NY, W vs V)
5. How best to represent ABBREVIATION SIGN CIRCLE and ABBREVIATION SIGN CROSS?
6. Secondary weighting of retroflex consonants

APPENDIX: Full list of participants of Consultative Meetings from October 4<sup>th</sup> to October 7<sup>th</sup>

1. Satya Mohan Joshi  
Chancellor, Nepal Bhasa Academy  
Senior Writer of Nepal
2. Laxman Rajbanshi  
Vice-Chancellor, Nepal Bhasa Academy  
Constituent Assembly Member, Nepal Govt.  
Short Story Writer & Educationist
3. Prof. Manik Lal Shrestha  
Central Dept. of Nepal Bhasa, Tribhuvan University (T.U.)  
Chairman, Newa Rashtriya Aandolan (Newa National Movement)  
Senior Critic
4. Padma Ratna Tuladhar  
Senior Human Rights Activist  
President, Nepal Bhasa Manka Khalaa  
Former Minister, Labour and Health, Nepal Govt.  
Writer/Patron, Nepal Lipi Guthi
5. Phanindra Ratna Bajracharya  
Chairman, Nepal Bhasa Parishad  
Patron, Nepal Lipi Guthi  
Writer
6. Durga Lal Shrestha  
Poet Litterateur  
Patron, Nepal Lipi Guthi
7. Malla K. Sundar  
Senior Human Rights Activist  
Former President, Newa Dey Daboo (National Forum of Newa Community)
8. Dr. Tej Ratna Kansakar  
Professor Tribhuvan University (T.U.)  
Linguist
9. Prof. Sundar Krishna Joshi  
Former Head, Central Dept. of Nepal Bhasa, T.U.
10. Prof. Nirmal Man Tuladhar  
Former Head of CINAS, T.U.  
Linguist



11. Kashinath Tamot  
Former Head, Central Dept. of Nepal Bhasa, T.U.  
Linguist
12. Prof. Prem Shanti Tuladhar  
Former Head, Central Dept. of Nepal Bhasa, T.U.  
Writer
13. Tulsi Lal Singh  
Head, Central Dept. of Nepal Bhasa, T.U.  
Linguist
14. Raja Shakya  
Former Chief Librarian, ASA Archives  
Writer
15. Dr. Omkareswor Shrestha  
Associate Professor, Central Dept. of Nepal Bhasa, T.U.  
Linguist
16. Jwala Sthapit  
Associate Professor, Central Dept. of Nepal Bhasa, T.U.  
Writer
17. Dr. Tuyu Bahadur Maharjan  
Associate Professor, Central Dept. of Nepal Bhasa, T.U.  
Linguist
18. Bhushan Prasad Shrestha  
Secretary, Cwasapasa  
Lecturer, T.U.  
Short Story Writer
19. Tribhuvan Dhar Tuladhar  
Businessman  
Founder, Nepal Lipi Preservation Fund, Nepal Lipi Guthi
20. Naresh Bir Shakya  
Nepal Bhasa Activist  
Writer and Publisher of various Nepal Bhasa Magazines  
Secretary, Nepal Bhasa Mankaa Khalaa
21. Pushkar Mathema  
Executive Editor, Gorkhapatra Daily  
Journalist and Writer
22. Shyam Sundar Rajbanshi  
Curator, Patan Durbar Museum  
Archeologist
23. Allen Bailochan Tuladhar  
Country Director, Microsoft  
Technical Coordinator, Nepal Lipi Guthi Encoding Committee
24. Sapna Tuladhar  
Director, Microsoft Innovation Center Nepal
25. Dr. Keshav Man Shakya

- President, Nepa Rashtriya Party  
Former Minister, Science, Technology & Environment, Nepal Govt.  
Former Vice-Chairman, Lumbini Development Trust  
Writer
26. Kamal Tuladhar  
Editor, Nepal Bhasa Dictionary  
Journalist
27. Bhai Raja Tuladhar  
Ranjana Font Designer  
Banker  
Nepal Bhasa Activist
28. Rajit Bahadur Shrestha  
Lecturer, Central Dept. of Nepal Bhasa, T.U.  
Writer
29. Jivan Kumar Maharjan  
Lecturer, Central Dept. of Nepal Bhasa, T.U.  
Writer
30. Milan Shakya  
Lecturer, Patan Multiple Campus  
Fontographer
31. Bishnu Chitrakar  
Nepal Lipi Proposal Submitter  
Linguist  
Nepal Bhasa Activist
32. Devdass Manandhar  
Nepal Lipi Proposal Submitter  
Chemical Engineer
33. Samir Karmacharya  
Nepal Lipi Proposal Submitter  
Font Designer
34. Rajendra Shakya  
Ranjana Script Font Designer  
Journalist, Nepal Mandal TV and Ujyalo F.M.
35. Juju Tuladhar  
Font Designer
36. Suresh Krishna Manandhar  
Chief Editor, Sandhya Times Daily  
Poet and Writer
37. Madhav Syasyaa  
Former President, Nepal Lipi Guthi  
Member, Nepali Lipi Guthi Encoding Committee
38. Pratap Man Shakya  
Former President, Nepal Lipi Guthi  
Member, Nepal Lipi Guthi Encoding Committee

- Expert on Nepal Scripts
39. Sharad Kasaa  
Chief Librarian, ASA Archives  
Former President, Nepal Lipi Guthi  
Member, Nepal Lipi Guthi Encoding Committee  
Expert on Nepal Scripts  
Lecturer, T.U.
  40. Ramesh Man Priya  
Former Treasurer, Nepal Lipi Guthi  
Nepal Bhasa Activist  
Auditor
  41. Gopal Krishna Sayami  
Treasurer, Nepal Lipi Guthi  
Member, Nepal Lipi Guthi Encoding Committee
  42. Anil Sthapit  
Former Vice-President, Nepal Lipi Guthi  
Communication Coordinator, Nepal Lipi Guthi Encoding Committee  
Former Chairman of Guthi, INGO
  43. Bipin Kapali Chikanmu  
Central Committee Member, Nepal Lipi Guthi  
Writer and Font Designer
  44. Rabindra Pachhai  
Font Designer
  45. Sharad Kasaa “Kasaachhen”  
President, Nepal Lipi Guthi  
Chairman, Nepal Lipi Guthi Encoding Committee  
Nepal Lipi Activist
  46. Rajib Shrestha  
Font Designer
  47. Ganesh Poudel  
Wikipedia Nepal
  48. Bhimdhoj Shrestha  
Wikipedia Nepal
  49. Hempal Shrestha  
Wikipedia Nepal
  50. Guna Raj Shakya  
Cameraman, Nepal Mandal TV
  51. Alok Sidhhi Tuladhar  
Documentary Film Maker  
Videographer
  52. Saroj Kumar Dhakal  
Google Nepal
  53. Prina Raj Joshi  
Documentary Film Maker

- Associated with Taiwan Television
54. Suresh Shrestha  
Videographer  
Associated with Taiwan Television
  55. Biplav Man Singh  
Former President, Computer Association of Nepal (CAN)
  56. Pabitra Kasaa  
Singer and Composer of Nepal Bhasa Songs  
Videographer  
Nepal Bhasa Activist
  57. Sonika Manandhar  
Computer Engineer, Microsoft Innovation Center Nepal  
Chairperson, Gwahali for Differently-Abled People (NGO)
  58. Pundarika Shakya  
Student  
Microsoft Student Partner
  59. Deborah Anderson  
Project Leader, Script Encoding Initiative, UC Berkeley  
Unicode Technical Committee member
  60. Peter Constable  
Unicode Vice President and Unicode Liaison to ISO/IEC JTC1/SC2  
Senior Program Manager, Microsoft