L2/14-014R

Proposal to encode MALAYALAM SIGN CIRCULAR VIRAMA

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Introduction

This document is an updated version of L2/14-014. Character properties has been added.

The Virama in Malayalam script is called *Candrakkala* in its explicitly visible form: ◌ൻ. It has got the following two main functions:

1. Represent the neutral vowel sound (ə) at the word endings. This sound is called *Saṃvr̥tōkāraṃ* and transliterated as *ŭ*.[1]
2. Remove the inherent vowel A from a Malayalam consonant letter to indicate the corresponding pure consonant.

Candrakkala was introduced in Malayalam script, by Rev. Dr. Hermann Gundert around 1847 to represent *Saṃvr̥tōkāraṃ*. Before that, *Saṃvr̥tōkāraṃ* was implicit at word endings with nominal consonant letters and often contextual as well. After around half a century, by around 1900, it acquired the second function to represent pure consonants without their inherent vowel A.

During this half century, before *Candrakkala* being used for its second function, Malayalam script tried a separate symbol, that is a small circle at the top-right corner of the consonant letter, to represent the pure consonant.

This symbol co-existed with *Candrakkala* while *Candrakkala* doing its original function of neutral vowel sound. At the turn of the 20th century, circular virama got deprecated and *Candrakkala* was overloaded with the second function as well. Circular virama must be encoded to record the documents from its usage period.

Relation to the Combining Anusvara Above proposal

The document L2/14-003[2] proposes a similar looking circle sign for Combining Anusvara Above.

[1] As per ISO 15919 described in http://homepage.ntlworld.com/stone-catend/trind.htm
[2] http://www.unicode.org/L2/L2014/14003-malayalam-anusvara-above.pdf

The Circular Virama and Anusvara Above differ in their placement with respect to the consonant letter. Anusvara Above is placed at the top-center position of the letter, while Circular Virama is placed at the top-right corner of the letter. Also, the later attestations of Circular Virama are generally much smaller in size compared to Anusvara Above or *Candrakkala.*

The attestations of Anusvara Above and Circular Virama are from two different era. Anusvara Above attestations are around 400 years old while Circular virama is at the most 150 years old. These characters are used for unrelated functions as well.

Security

This letter could be confused with the degree sign (00B0). At small font sizes, it could be confused with Virama(0D4D). To avoid such security issues, this character should be excluded from IDNs since it is not needed for contemporary Malayalam use.

Attestations

Attestations from various sources are listed below as sources organized as subsections.

Malayāḷmayuṭe Vyākaraṇaṃ (1863), by Rev. George Mathan[3]

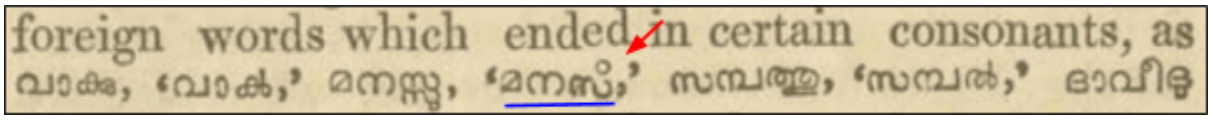


Image 1: The underlined word is മനസ<circular virama> (*manass*). This word is listed with couple of other words that end in Chillus (വാ□, സമ്പ□) to show the contrast between words ending in vowel sign U and that ends in consonant.

Khāṇḍvadāhaṃ (1867), by Kaṭattanāṭṭŭ Śaṅkaravarmma[4]

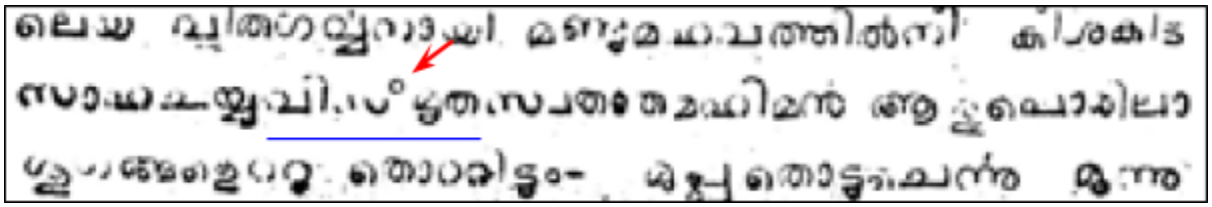


Image 2: The underlined word is വിസ<circular virama>മൃത (*vismṛta*). This document uses vowel sign U to represent *Saṃvṛtōkāraṃ.*

[3] https://drive.google.com/file/d/0B4hBi4hJ-5mnTTdTbWJ0VUJyWE0/edit?usp=sharing page 11

[4] https://archive.org/stream/KhandavaDahamKadhakali/Khandava_Daham_Kadhakali#page/n20/mode/1up page 20

First edition of Manorama Newspaper (1890)[5]

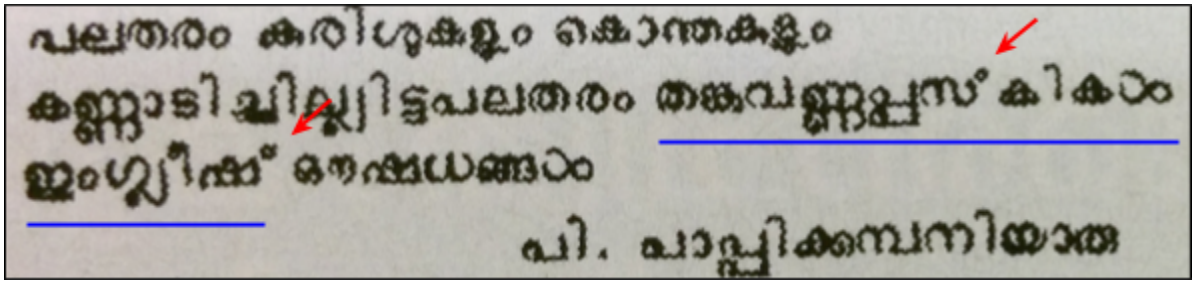


Image 3: The underlined words are തങ്കവണ്ണപ്പസ<circular virama>കിക (taṅkavaṇṇappaskikaḷ), ഇംഗ്ലീഷ<circular virama> (iṃglīṣ). This document uses vowel sign U to represent *Saṃvṛtōkāraṃ.*

Kavibhārataṃ(1893) by Koṭuṅṅallūr Kuññikkuṭṭan Taṃpurān[6]

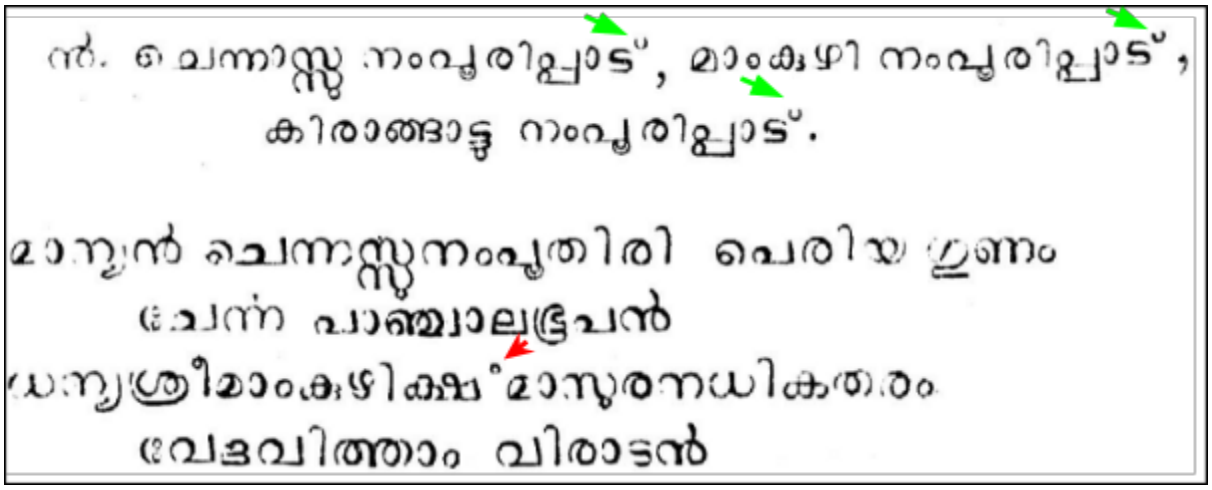


Image 4: Contrasting usage of *Candrakkala* and circular virama. First 3 usages are of *Candrakkala* for *Saṃvṛtōkāraṃ.* The last one is of Circular Virama for vowelless consonant to split up the grapheme cluster K-SS-MA.

[5] https://lh6.googleusercontent.com/-FgZulN0h9G4/Urilxy2JcbI/AAAAAAAEvi4/nSWYhKbfJC0/w1912-h0-no/13+-+1 page 20

[6] http://www.keralasahityaakademi.org/online_library/m-k.html page 5, 6

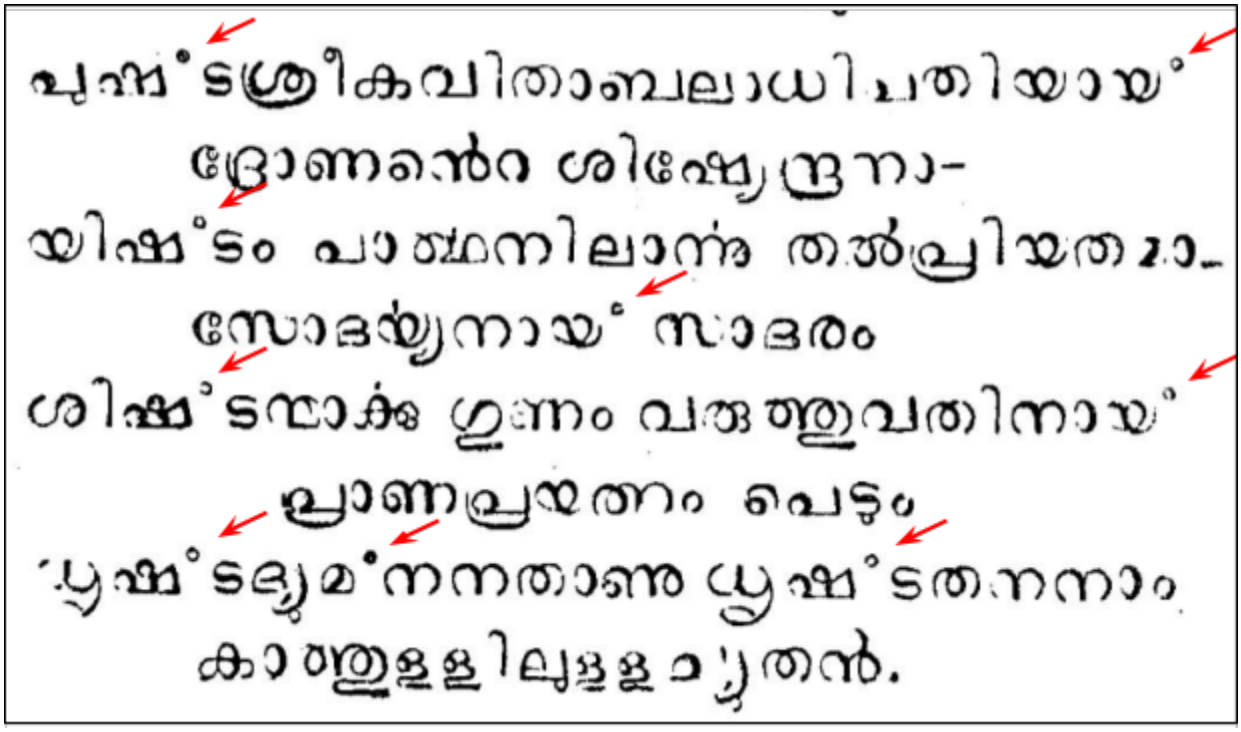


Image 5: All usages are of Circular Virama for pure consonant.

Aṃbarīṣacaritaṃ(1897) by Kaṭattanāṭṭŭ Udayavarmma[7]

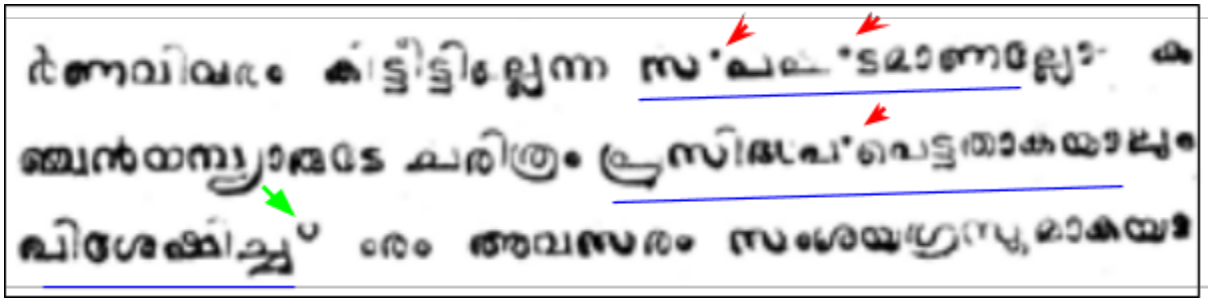


Image 6: Contrasting usage of *Candrakkala* and circular virama. The words that use circular virama for pure consonant:

- സ<circular virama>പഷ<circular virama>ടമാണല്ലോ (*spaṣṭamāṇallō*)
- പ്രസിദ്ധപ<circular virama>പെട്ടതാകയാലും(*prasiddhappeṭṭatākayāluṃ*) for

The last word that use *Candrakkala* for Saṃvṛtōkāraṃ is വിശേഷിച്ച് (*viśēṣiccŭ*)

[7] https://archive.org/stream/AmbareeshaCharithamThullal/Ambareesha_Charitham_Thullal#page/n3/mode/1up pages I and 9

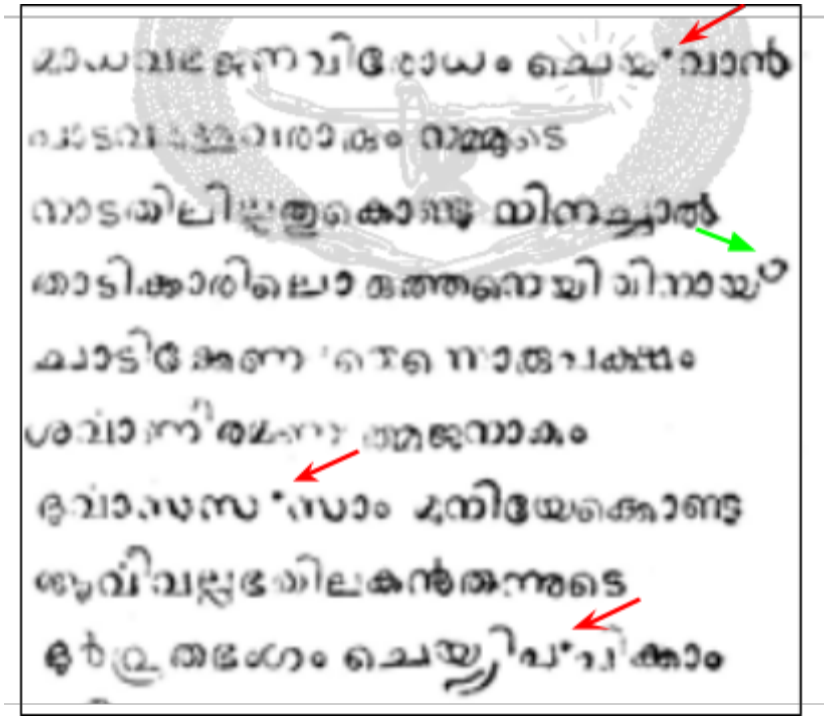


Image 7: Another instance of contrasting usage of *Candrakkala* and circular virama. Second one is *Candrakkala* for Saṃvr̥tōkāraṃ at the word ending. The first, third and fourth are circular viramas, used to indicate vowelless consonants, so as to split up the grapheme clusters. *Candrakkala* is bigger and circular virama is tiny.

Indyayile pāḷsikaḷ(1903) by Kaṇṭattil Māttuḷḷa Māppiḷa[8]

Image 8: An instance of contrasting usage of *Candrakkala* and Circular Virama. Third and the fifth ones marked by green arrows from the left are *Candrakkala* for Saṃvr̥tōkāraṃ at the word endings. The first, second, fourth and sixth are Circular Virama for vowelless consonants to split up the grapheme clusters.

[8] http://www.keralasahityaakademi.org/online_library/m-i.html page 9

Kaṇṭhāmṛtaṃ(1906) by Nīlakaṇṭa Tīrtthar

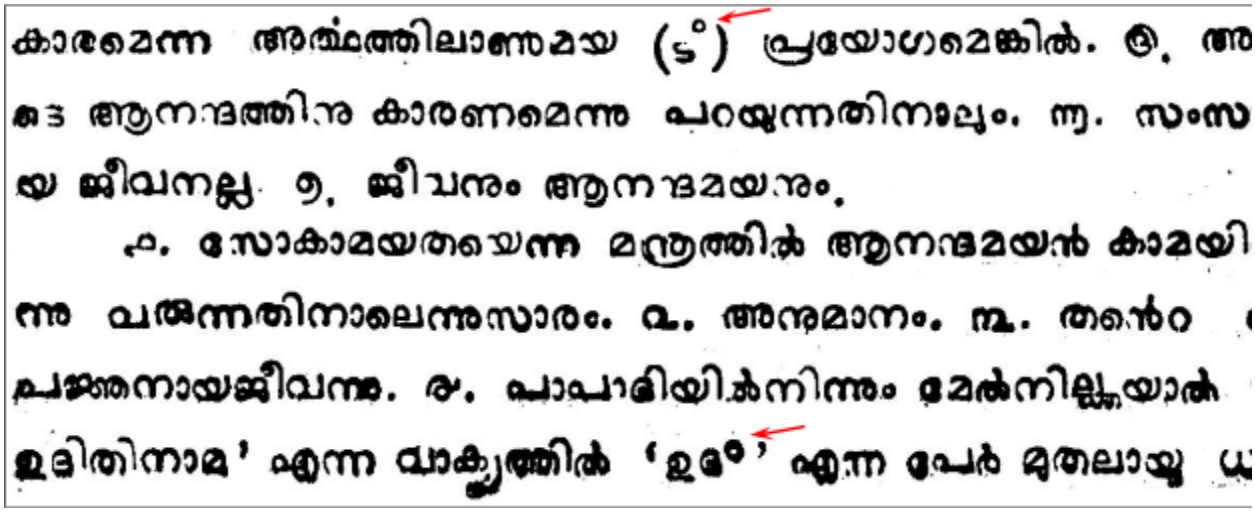

കാരമെന്ന അർത്ഥത്തിലാണുമയ (ട്) പ്രയോഗമെങ്കിൽ. ൫. അ
ടെ ആനന്ദത്തിനു കാരണമെന്നു പറയുന്നതിനാലും. ൬. സംസ
യ ജീവനല്ല. ൭. ജീവനും ആനന്ദമയനും.
൮. സോകാമയതയെന്ന മന്ത്രത്തിൽ ആനന്ദമയൻ കാമയി
ന്നു പരുന്നതിനാലെന്നുസാരം. ൯. അനുമാനം. ൱. തന്റെ
പഞ്ചനായജീവനും. ൰. പാപാദിയിൽനിന്നും മേൽനില്ക്കയാൽ
ഉദിതിനാമ' എന്ന വാക്യത്തിൽ 'ഉദ്' എന്ന പേർ മുതലായ്മ

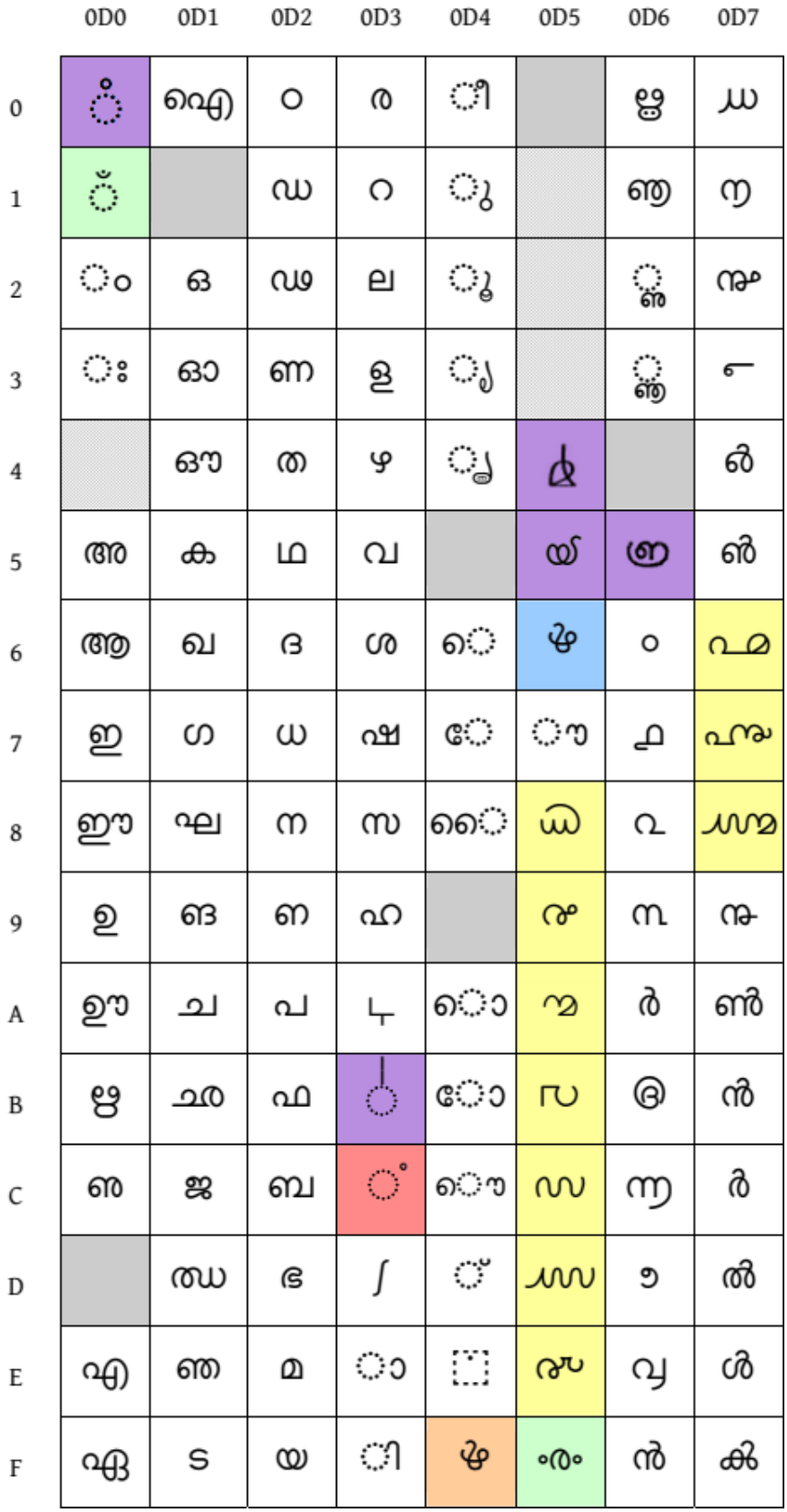
Image 9

Based on the above attestations we can see that this character was in use in the later part of the 19th century and the early years of the 20th century. Since then it has been replaced by the Virama: ◌്(0D4D).

Choice of codepoint

The proposed codepoint is **0D3C** which is a location close to Virama (0D4D).

Malayalam Code Chart



Legend

White: Published as of Unicode 6.3.

Green: Accepted and at advanced stage not permitting changes.

Yellow: Fractions, accepted.

Orange: Chillu LLL accepted but preferably to be moved to group with Chillu Y.

Blue: New location proposed for Chillu LLL.

Purple: Locations of ongoing proposals of Anusvara Above, Chillus M and Y, Vertical Bar Virama and Symbol Para.

Red: Location proposed for Circular virama.

Proposed character with properties

Glyph:

UnicodeData.txt:

```
0D3C;MALAYALAM SIGN CIRCULAR VIRAMA;Mc;9;L;;;;;N;;;;;
```

IndicSyllabicCategory.txt:

```
# Indic_Syllabic_Category=Pure_Killer
0D3C          ; Pure_Killer # Mc       MALAYALAM SIGN CIRCULAR VIRAMA
```

IndicPositionalCategory.txt:

```
# Indic_Positional_Category=Top
0D3C          ; Top         # Mc       MALAYALAM SIGN CIRCULAR VIRAMA
```

Official Proposal Summary Form

(Based on N3902-F)

A. Administrative

1. Title

Proposal to encode Malayalam Sign Circular Virama

2. Requester's name

Cibu Johny, Shiju Alex, Sunil V S

3. Requester type (Member body/Liaison/Individual contribution)

Individual contribution

4. Submission date

2015-Jan-19

5. Requester's reference (if applicable)

6. Choose one of the following: This is a complete proposal (or) More information will be provided later

This is a complete proposal.

B. Technical – General

1. Choose one of the following:

1a. This proposal is for a new script (set of characters), Proposed name of script

No

1b. The proposal is for addition of character(s) to an existing block, Name of the existing block

Yes, Malayalam

2. Number of characters in proposal

1 (one)

3. Proposed category

Category B1, specialized small (for this character)

4. Is a repertoire including character names provided?

Yes

4a. If YES, are the names in accordance with the “character naming guidelines” in Annex L of P&P document?
Yes
4b. 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?
Michael Everson
b. Identify the party granting a license for use of the font by the editors (include address, e-mail etc.)
Michael Everson, everson@evertype.com
6a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?
Yes
6b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?
Yes
7. 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
8. 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.
See detailed proposal.

C. Technical – Justification

1. Has this proposal for addition of character(s) been submitted before? If YES, explain.
No
2a. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?
Yes
2b. If YES, with whom?
The authors themselves are part of the user community.
2c. If YES, available relevant documents
None specifically. The matter was discussed via email.
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?
Those (scholars and enthusiasts) who desire to store old Malayalam documents using this character.
4a. The context of use for the proposed characters (type of use; common or rare)
Rare
4b. Reference
See detailed proposal.
5a. Are the proposed characters in current use by the user community?
No. This character was in historical use.
5b. If YES, where?
6a. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?
Yes
6b. If YES, is a rationale provided?
It belongs in the Malayalam block which is in the BMP.
6c. If YES, reference
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?
Only one character is proposed.
8a. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?
No
8b. If YES, is a rationale for its inclusion provided?

8c. If YES, reference

9a. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?

No

9b. If YES, is a rationale for its inclusion provided?

9c. If YES, reference

10a. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character?

No

10b. If YES, is a rationale for its inclusion provided?

10c. If YES, reference

11a. Does the proposal include use of combining characters and/or use of composite sequences?

No

11b. If YES, is a rationale for such use provided?

11c. If YES, reference

11d. Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?

12a. Does the proposal contain characters with any special properties such as control function or similar semantics?

No.

12b. If YES, describe in detail (include attachment if necessary)

13a. Does the proposal contain any Ideographic compatibility character(s)?

No

13b. If YES, is the equivalent corresponding unified ideographic character(s) identified?

13c. If YES, reference: