CIN: U30004KA2017PTC107420

Dr. Guru Prasad, Director KaNaada Phonetics Pvt. Ltd. India

17<sup>th</sup> Feb-22

Dear Dr. Deborah (

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) and other Unicode Committee Members.

Ref: Tulu-Tigalari Unicode Prop. L2/22-031

We would like to thank you for the continued support for encoding Tulu language scripts. We are writing to raise concerns on the addition of consonant joiner (pg.45, ක් = ක 🛖 e + ් Tulu-Tigalari ConJoiner 113D0) in lieu to what has been used in all Indic languages (ຜ = ຜ + ໍ + ຍ + ໍ pg. 22 L2/22-031). We really appreciate the efforts of Vaishnavi et al to encode manuscript variations, writing styles going backwards, however the efforts of Karnataka Tulu Sahitya Academy (L2/22-034) is also important to bring the script to use contemporarily and going forward to support National Education Policy and existence of Tulu to our progeny. We are the last generation to do anything if at all to revive the Tulu language script. Gov. has actively supported this effort, encouraged keyboard, text curriculum, courses, teacher training, and font development in the renaissance of Tulu to millions. People of TuluNadu want their own script back in use. Since I last wrote, two organizations are established in USA actively involved in Tulu culture and dialects and several batches of American born kids are actively learning spoken and written Tulu and I am actively involved in advisory roles in these orgs.

Virama or halanth () has been used as a consonant joiner also in all Brahmi script based and Indic languages. We can transliterate any Unicode scripts from one to the other. The same is demonstrated in our keyboard also where one can type any language using Brahmi script base just by listening & using his mothertongue top skin keyboard. We see the addition of additional consonant joiner (pg.45, 🕀 Tulu-Tigalari ConJoiner 113D0) by Vaishnavi et al in L2/22-031 an issue, in digital translation of documents, where Kannada, Malayalam and Sanskrutam scripts are currently used for Tulu language. I have here before apprised the author on these issues and also how Zero Width Joiner/Non-Joiner (ZWJ/ZWNJ) or Zero Width Space could be used to join to half consonants. Using any layout or keyboard in any Indian language one can type Ottakshar (consonant additions) or write two half consonants next to each other. Some examples are shown here. One has to write convertors to go from the existing recommendations to other scripts like Kadamba of Kannada or Malayalam, Devanagari scripts. Our request is to kindly maintain status quo on the existing norms for consonant joiner and it does not compromise anything else addressed by Vaishnavi et al in L2/22-031, but aids in smooth transition of current Tulu users in available editors, keyboards, fonts.

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ක්ක්=ක් FN+₂ഏ, ක් ZW-NJ e.g.

Above shows some examples of interoperability of various Indic scripts in Unicode, including Tulu language script under Malayalam Unicode. Hitherto we have supported proposal L2/17-378 (Ref 3) in 2017 and shown how our keyboard can be used to type script variations referred in the L2/20-177 proposal. I am still in India and continued the efforts full time for over four years to help Indic languages with a hardware keyboard supporting Unicode. We have shown that through our keyboard one can type various character variations, consonant, ligature combinations ( Ref 15) for Tulu language scripts using fonts and style sets through Malayalam, Kannada Unicode.

Translation of manuscripts, digital version of manuscripts is underway at various institutes, groups with Tulu fonts using Malayalam Unicode. Tulu Ramayana with very ancient Tulu dialect is an example.

Bungle Final Robert (1998)

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Kindly accommodate the minor changes requested for the benefit of many.

Best regards,

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Ka-Naada<sup>TM</sup> Tulu Keyboard US Ptnt

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#### Ref:(random order)

- 1. L2/17-378: Preliminary proposal to encode Tigalari in Unicode by Vinod & Vaishnavi & Jamadhagni (2017) (We have supported and met with Vaishnavi to keep track of the Unicode efforts)
- 2. 17411-tigalari-support.pdf Support Letter to Unicode Nov (2017) from KaNaada Phonetics
- 3. The Palaeography of India,(1918), Raj Bahadur , Pandit Gaurishankar Hirachand Ojha (one of the Alphabet set reference for Tulu Sri font)
- 4. Tulu Alphabet, Tulu, Kannada, English, (2014), GVS Ullal5th edition 1018, First edition 2010 (glyph set for Tulu Sri follows this book and added new half vowels)
- 5. Tulu Sri Font Ver 10.0 (encoded in Malayalam Unicode for now), Ka-Naada hardware keypad for Tulu (7 inch) for schools, released at Tulu World Conference Dubai, (2018)
- 6. Tulu Sri Ver 20. (encoded in Malayalam Unicode for now), 10 inch Tulu USB Ka-Naada hardware keypads, released in Nov 2019, Tulu Sahitya Academy, Mangalore, released by Harikrishna Punaroor (tulu scholar, twice Kannada Sahitya parishat President), Dayanand Kattalsar (President elect, Tulu Sahitya Academy).
- 7. Ka-Naada Tulu Hardware die keyboard , 10 inch , released on Aug 15 2020, by Dharmastala Veerendra Hegde & Dr. Vignaraj (Director , Tulu manuscripts library)
- 8. Tulu Font story, (2020) Nuances in orthography, conjuncts in Fonts, Stylesets, Guru Prasad, Nishkal Rao, Sathish Agpala
- 9. Tech in Tulu, Guru Prasad, online seminar by Sathish Agpala (2020)
- 10. Learn Tulu language script in 4 hours using Memory mapping technique, Sathish Agpala, Online classes, (2017-2020)
- 11. A comparative grammar of Dravidian or South Indian Family of Languages, Robert Caldwell, (1856)
- 12. Grammar of the Tulu language, J. Bigel, (1872)
- 13. Books on grammar, S.U. Paniyadi, , L.V. Ramaswamy Iyer
- 14. A handbook to learn Tulu, Pradyoth Hegde, 2020
- 15. Concise Tulu dictionary, Dr. U.P. Upadhyaya , (5 vols) , (2005)
- 16. The Tulu Font, Dr. K.P. Rao (prior to 2017) (Malayalam style conjuncts developed for Tulu Academy)
- 17. Tulu Language: Its Script and Dialects, Dr. Neria H. Hebbar, (2003), Boloji.com article (Char sets from 1880)
- 18. SriHari Type 2 font, www.theTuluFont.in (2017,20)
- 19. Kanatavu, Android editor for Tulu (2020) Adarsh S., Guru Prasad, KaNaada Phonetics pvt ltd.
- 20. Storyline of Ka-Naada keyboards, Tulu Sri and other fonts for Digitally connecting through Tulu language scripts (2017-2020)
- 21. Tulu Ramayana, Dr. Vignaraj, Dharmastala Manuscript Library (Draft conversion into digital ver.)
- 22. **Tulu Siri**, Ver 0.1, Modified draft ver of TuluSri Font complying with the Alphabets sent to Unicode by KTSA.
- 23. Tulu Language Lab setup, Tulu Keyboards, lesson plans setup at Kuthyar, PPC & other schools
- 24. Bale Tulu Lipi Kalpuga & Learn Spoken Tulu classes, All American Tulu Association, Shivalli Kutumba, USA

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Cc/- Tulu Sahitya Academy, Mangalore, National Culture Ministry, New Delhi, Karnataka Culture Ministry, Bangalore, Dr. Kasturirangan, Chief, National Education Policy(NEP) 2020 Education Committee, All American Tulu Association (AATA), **Boston** 

Education Committee, Shivalli Kutumba, USA

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