




Title: Proposal to include Malayalam Symbols
Source: Centre for Linguistic Computing Keralam @ C-DIT
Through: Kerala State IT Mission Government of Kerala
Action: For consideration by UTC and ISO/IEC JTC 1/SC 2/WG 2
Distribution: ISO/IEC JTC 1/SC 2, ISO/IEC JTC 1/SC 2
Contact:linguafranka@yahoo.com

1. Introduction

Unicode Malayalam range encodes Malayalam numerals. Malayalam possessing a handful of symbols to represent other linguistic and nonlinguistic characters. But the diversity of symbols had not been included in Unicode range of Malayalam

1.1. Glyph proposed in this document

Malayalam Symbols

No	Shape of the proposed character	Proposed name	Character Position
		MALAYALAM FRACTION ONE BY EIGHT	U+0D73
		MALAYALAM FRACTION ONE BY FORTH	U+0D74
		MALAYALAM FRACTION ONE BY TWO	U+0D75

		MALAYALAM FRACTION THREE BY FOURTH	U+0D76
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1.2. About Centre for Linguistic Computing Keralam@ C-DIT

Centre for Linguistic Computing Keralam known, as CLiCK @ C-DIT is a joint venture of Kerala State IT Mission, Government of Kerala, Department of Linguistics University of Kerala and Computational Linguistic Team @ C-DIT for the development research, facilitation and dissemination of Malayalam Language Computing in Keralam and Malayalee speech communities.

1.3. Demographics

Malayalam is the language of the state of Kerala in India. Total population of Malayalee speakers around the world is estimated to be around three cores (1999 Census)

2. Malayalam Symbols

Malayalam Symbols has much used in old documents, especially in old ethnic mathematics and other agrarian literature.

2.1. Malayalam Symbol system

Curved in nature and similarity with Tamil is an essential features of Malayalam Symbols

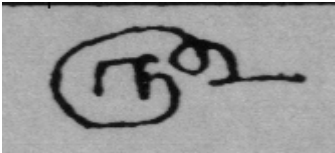

Tamil numerics	
0BF0	൧ TAMIL NUMBER TEN
0BF1	൧൦൦ TAMIL NUMBER ONE HUNDRED
0BF2	൧൦൦൦ TAMIL NUMBER ONE THOUSAND
Tamil symbols	
0BF3	൧൩ TAMIL DAY SIGN
0BF4	൧൪ TAMIL MONTH SIGN
0BF5	൧൫ TAMIL YEAR SIGN
0BF6	൧൬ TAMIL DEBIT SIGN
0BF7	൧൭ TAMIL CREDIT SIGN
0BF8	൧൮ TAMIL AS ABOVE SIGN
Currency symbol	
0BF9	൧൯ TAMIL RUPEE SIGN
Tamil symbol	
0BFA	൨൦ TAMIL NUMBER SIGN

(Extracted from Unicode Tamil Chart only for this proposal submission)

2.2. Compatibility between other Indian scripts

Malayalam symbol system has graphical and ontological similarity with sign system of other Indian languages

See

Malayalam Symbol for Rupee	Tamil symbol for Rupee
 A black and white photograph of a hand-drawn Malayalam symbol for Rupee. The symbol consists of a circle with a vertical line through it, and a horizontal line extending to the right from the bottom of the circle.	 A black and white photograph of a hand-drawn Tamil symbol for Rupee. The symbol consists of the Tamil characters 'ரூபி' followed by a small circle and the text 'TAMIL RUPEE SIGN'.

But in Tamil most of the ethnic symbols represents time duration year etc are included as separate characters.

2.3 Usage of proposed glyphs in Malayalam

Malayalam old symbols is not being used widely because it belongs to the minor extinct category of character, but it is an obligatory prerequisites for the digitization of old documents including manuscript also.

3. Published Usage Example

The below published text includes the symbols

$\frac{1}{4} = \frac{1}{4}$ ഞ $\frac{1}{4}$	$\frac{1}{20}$ ഞ $\frac{1}{20}$	$\frac{1}{320}$ ഞ $\frac{1}{320}$	$\frac{3}{20}$ ഞ $\frac{3}{20}$	Malayalam symbol one by four
$\frac{1}{2}$ ഞ $\frac{1}{2}$	$\frac{1}{16}$ ഞ $\frac{1}{16}$	$\frac{1}{160}$ ഞ $\frac{1}{160}$	$\frac{1}{5}$ ഞ $\frac{1}{5}$	Malayalam symbol one by two
$\frac{3}{4}$ ഞ $\frac{3}{4}$	$\frac{1}{10}$ ഞ $\frac{1}{10}$	$\frac{1}{80}$ ഞ $\frac{1}{80}$	$\frac{3}{80}$ ഞ $\frac{3}{80}$	Malayalam symbol three by four

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Page extracted from K.C Musaad (1980)

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4. References

- Manavan Mapila () കണക്കധികാരം
 L.A Ramavarma (1971) പ്രാചീനകേരള ലിപികള്: Kerla Sahithy Academy
 K.C Musaad (1980) പ്രാചീന ഗണിതം മലയാളത്തില്: State Institute of Language
 P.K Narayana Pillai (1951) *Pracheena malayaala grandhaa mathrakakal*