L2/16-074
2016-04-07

Preliminary proposal to encode the Kerinci script in Unicode

Anshuman Pandey
pandey@umich.edu

April 7, 2016

1 Introduction

This is a preliminary proposal to encode the 'Kerinci' script in the Unicode standard. The aim is to present a tentative character repertoire, representative glyphs, and encoding model. Several issues must be addressed:

1. *Character repertoire* The full character repertoire needs to be determined. Are there other characters that need to be accommodated beyond those shown here?

2. *Stylistic variants vs. alternates* Historical and modern sources show several variant forms of consonant letters (for example, see the street sign and other display signage in figure 5). Some of these may be considered stylistic variants, while others may be true alternate forms.

3. *Representative glyphs* Once the character repertoire has been established, representative glyphs need to be determined.

4. *Vowel signs* The repertoire of vowel signs needs to be determined.

5. *Collation* Is there a preferred sort order for the characters?

Feedback on this information is requested from experts and users of the script. Additional source materials are also requested. A formal proposal is forthcoming.

2 Background

The Kerinci (𑊓𑊥𑊮𑊳𑊮𑊳) script was used in Sumatra, Indonesia. It is also known as *aksara incung*, *surat incung*, *aksara rencong*. The term *rencong* is not to be confused with *rejang* ('Rejang'), the name of another script used in Sumatra. Kerinci is related to other scripts of Sumatra (see comparison in tables 1–3). The script was described by Christopher Miller in Unicode Technical Note #35 "Indonesian and Philippine Scripts and Extensions".

3 Script Details

3.1 Structure

Kerinci is an alphasyllabary that is written from left to right. It is based upon the Brahmi model. The only independent vowel letter is KERINCI LETTER A, which has the default value /a/ and functions as a vowel carrier. Vowels are represented using dependent combining signs. These signs are written with the vowel carrier for independent forms of vowels. Each consonant possesses the inherent vowel /a/. The inherent vowel is changed by applying a vowel sign to a consonant. Vowel signs may occur above, below, and to the right of a consonant. The script has a VIRAMA mark for silencing the inherent vowel. However, the VIRAMA is not used for producing conjuncts and has no control properties. Instead, consonant clusters are represented as atomic ligatures. The final consonants *nga* and *h* are represented using combining signs.

The structure of a Kerinci orthographic syllable is:

$$\mathbf{V_{carrier}}\ [V_{sign}]\ [C_{sign}]$$

$$\mathbf{C}\ [V_{sign}]\ [C_{sign}]\ |\ [M_{virama}]$$

3.2 Character repertoire

The character repertore for Kerinci consists of 19 basic consonant letters, 9 consonant-cluster ligatures, 2 consonant signs, and 6 combining vowel signs, and 1 *virama*. Representative glyphs for the proposed characters are based upon forms used in manuscripts. Character names are patterned upon those used for Rejang characters in Unicode.

4 Proposed Encoding

4.1 Consonants

There are 19 basic consonant letters:

	Character name	Phonetic value
ᨀ	KERINCI LETTER KA	/k/
ᨁ	KERINCI LETTER GA	/g/
ᨂ	KERINCI LETTER NGA	/ŋ/
ᨃ	KERINCI LETTER TA	/t/
ᨄ	KERINCI LETTER DA	/d/
ᨅ	KERINCI LETTER NA	/n/
ᨆ	KERINCI LETTER PA	/p/
ᨇ	KERINCI LETTER BA	/b/

𑤿	KERINCI LETTER MA	/m/
𑥀	KERINCI LETTER CA	/t͡ʃ/
𑥁	KERINCI LETTER JA	/d͡ʒ/
𑥂	KERINCI LETTER NYA	/ɲ/
𑥃	KERINCI LETTER RA	/r/
𑥄	KERINCI LETTER LA	/l/
𑥅	KERINCI LETTER YA	/j/
𑥆	KERINCI LETTER WA	/w/
𑥇	KERINCI LETTER SA	/s/
𑥈	KERINCI LETTER HA	/h/
𑤾	KERINCI LETTER A	/a/, 0

The 𑤾 KERINCI LETTER A is a vowel carrier. When a combining vowel sign is attached to it, it adopts the phonetic value of the sign and represents an independent vowel.

Variant forms of consonants are attested in several manuscript sources (see figure **??**). A determination regarding their status as glyphic variants or alternate forms requires additional research.

4.2 Consonant-cluster letters

There 9 letters that represent consonant clusters:

	Character name	Phonetic value
𑥉	KERINCI LETTER MBA	/mb/
𑥊	KERINCI LETTER NGGA	/ŋg/
𑥋	KERINCI LETTER NDA	/nd/
𑥌	KERINCI LETTER NYJA	/ɲd͡ʒ/
𑥍	KERINCI LETTER MPA	/mp/
𑥎	KERINCI LETTER NGHA	/ŋh/
𑥏	KERINCI LETTER NTA	/nt/
𑥐	KERINCI LETTER NYCA	/ɲt͡ʃ/
𑥑	KERINCI LETTER NGSA	/ŋs/

4.3 Virama

The following vowel-silencing character is proposed:

	Character name	Phonetic value
◌𑤽	KERINCI SIGN VIRAMA	/0/

4.4 Vowel signs

Four combining vowel signs are proposed for encoding:

	Character name	Phonetic value
◌𑤾	KERINCI VOWEL SIGN I	/i/
◌𑤿	KERINCI VOWEL SIGN U	/u/
◌𑥀	KERINCI VOWEL SIGN E	/e/
◌𑥁	KERINCI VOWEL SIGN O	/o/

Independent forms of vowels are represented by attaching vowels signs to 𑤀 KERINCI LETTER A, as shown below. These vowel signs combine with other consonant letters in the same way to form syllables.

a	𑤀	<𑤀 A>
i	𑤀𑤾	<𑤀 A, ◌𑤾 VOWEL SIGN I>
u	𑤀𑤿	<𑤀 A, ◌𑤿 VOWEL SIGN U>
e	𑤀𑥀	<𑤀 A, ◌𑥀 VOWEL SIGN E>
o	𑤀𑥁	<𑤀 A, ◌𑥁 VOWEL SIGN O>

4.5 Consonant signs

There are combining signs for two final consonants:

	Character name	Phonetic value
◌𑥂	KERINCI CONSONANT SIGN NG	/ŋ/
◌𑥃	KERINCI SCONSONANT SIGN H	/h/

These are used as follows:

kang	ᛗ́	<ᛗ KA, ◌́ CONSONANT SIGN NG>
kah	ᛗ॥	<ᛗ KA, ◌॥ CONSONANT SIGN H>

4.6 Alternate signs

Also proposed for encoding are three alternate forms:

	Character name	Phonetic value
◌ᛇ	KERINCI FIRST ALTERNATE VOWEL SIGN I	/i/
◌ᛁ	KERINCI SECOND ALTERNATE VOWEL SIGN I	/i/
◌ᛇ	KERINCI ALTERNATE SIGN VIRAMA	/0/

They are proposed as distinctive characters on account of their shapes

The ◌ᛁ KERINCI VOWEL SIGN U appears to resembles ◌ᛁ KERINCI SECOND ALTERNATE VOWEL SIGN I in shape and position. The former is written beneath a consonant, while the latter is positioned to the right.

4.7 Digits

Script-specific digits are not attested.

4.8 Linebreaking

Linebreaking rules remain to be determined. Generally, linebreaks occur after an orthographic syllable, but the syllable may be split if a spacing vowel sign occurs at the end of line. Hyphens or other marks indicating continuance are not used.

5 References

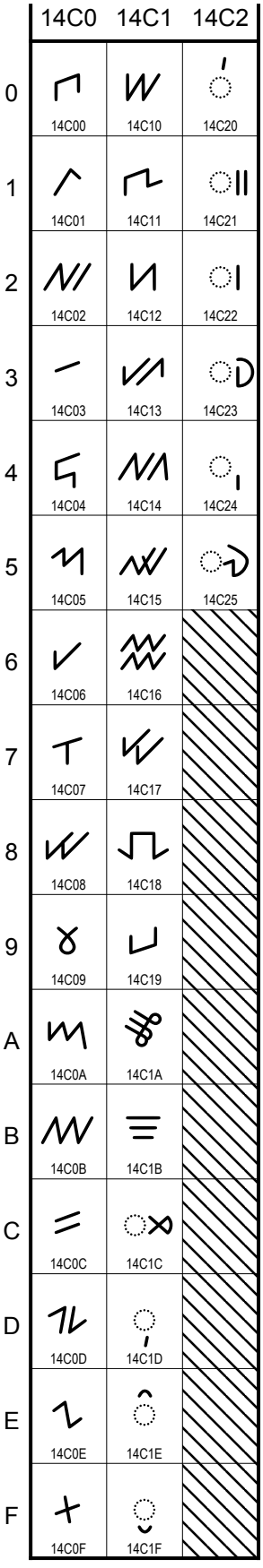
Miller, Christopher. 2010. "Unicode Technical Note #35: Indonesian and Philippine Scripts and Extensions". `http://www.unicode.org/notes/tn35/`

Voorhoeve, P. 1970. "Kerintji documents". *Bijdragen tot de Taal-, Land- en Volkenkunde*. 126, n. 4, pp. 369-399. Leiden.

Westenenk, L.C. 1922. "Rèntjong-schrift". *Tijdschrift voor Taal-, Land- en Volkenkunde*, vol. 61. Batavia: Albrecht en Co./'s-Gravenhage: M. Nijhoff.

6 Acknowledgments

I presented the Kerinci script as part of my talk for IMUG (International Multilingual User Group) in March 2016 in San Jose, California, U.S.A. I would like to extend my appreciation to the audience for their questions and feedback.



Also known as Aksara Incung and Aksara Rencong.

Consonants

14C00 KERINCI LETTER KA
14C01 KERINCI LETTER GA
14C02 KERINCI LETTER NGA
14C03 KERINCI LETTER TA
14C04 KERINCI LETTER DA
14C05 KERINCI LETTER NA
14C06 KERINCI LETTER PA
14C07 KERINCI LETTER BA
14C08 KERINCI LETTER MA
14C09 KERINCI LETTER CA
14C0A KERINCI LETTER JA
14C0B KERINCI LETTER NYA
14C0C KERINCI LETTER SA
14C0D KERINCI LETTER RA
14C0E KERINCI LETTER LA
14C0F KERINCI LETTER VA
14C10 KERINCI LETTER YA
14C11 KERINCI LETTER HA
14C12 KERINCI LETTER A
14C13 KERINCI LETTER MBA
14C14 KERINCI LETTER NGGA
14C15 KERINCI LETTER NDA
14C16 KERINCI LETTER NYJA
14C17 KERINCI LETTER MPA
14C18 KERINCI LETTER NGHA
14C19 KERINCI LETTER NTA
14C1A KERINCI LETTER NYCA
14C1B KERINCI LETTER NGSA

Vowel signs

14C1C KERINCI VOWEL SIGN I
14C1D KERINCI VOWEL SIGN U
14C1E KERINCI VOWEL SIGN E
14C1F KERINCI VOWEL SIGN O

Consonant signs

14C20 KERINCI CONSONANT SIGN NG
14C21 KERINCI CONSONANT SIGN H

Virama

14C22 KERINCI SIGN VIRAMA

Alternate signs

14C23 KERINCI FIRST ALTERNATE VOWEL SIGN I
14C24 KERINCI SECOND ALTERNATE VOWEL SIGN I
14C25 KERINCI ALTERNATE SIGN VIRAMA

	Kerinci	Rejang
KA		
GA		
NGA		
TA		
DA		
NA		
PA		
BA		
MA		
CA		
JA		
NYA		
SA		
RA		
LA		
WA		
YA		
HA		
A		

	Kerinci	Rejang
MBA		
NGGA		
NDA		
NYJA		
MPA		—
NGHA		—
NTA		—
NYCA		—
NGSA		—

Table 1: Comparison of Kerinci and Rejang consonants.

	Kerinci	Rejang
CONSONANT SIGN NG		
CONSONANT SIGN N	—	
CONSONANT SIGN R	—	
CONSONANT SIGN H		
SIGN VIRAMA		
ALTERNATE SIGN VIRAMA		—

Table 2: Comparison of Kerinci and Rejang consonant signs and VIRAMA.

	Kerinci	Rejang
VOWEL SIGN I		
VOWEL SIGN U		
VOWEL SIGN E		
VOWEL SIGN AI	?	
VOWEL SIGN O		
VOWEL SIGN AU	—	
VOWEL SIGN EU	—	
VOWEL SIGN EA	—	
FIRST ALTERNATE VOWEL SIGN I		—
SECOND ALTERNATE VOWEL SIGN I		—

Table 3: Comparison of Kerinci and Rejang vowel signs.

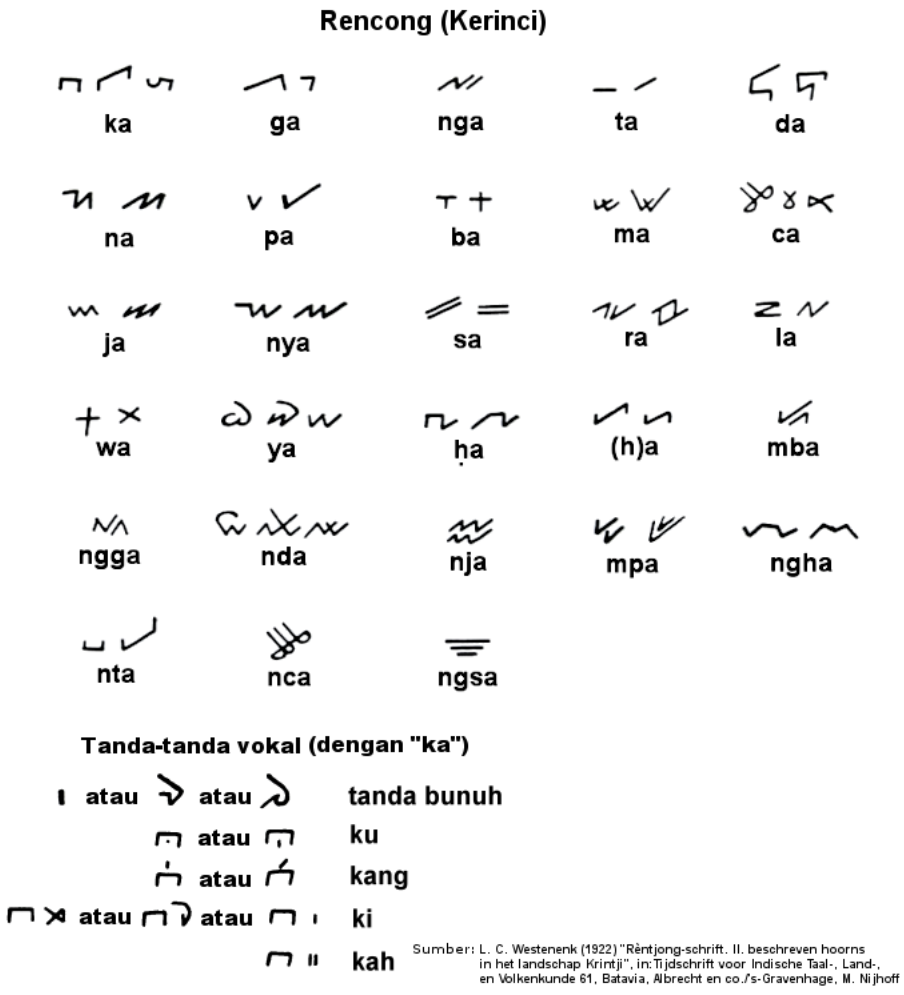


Figure 1: Inventory of Kerinci characters along with alternate forms.

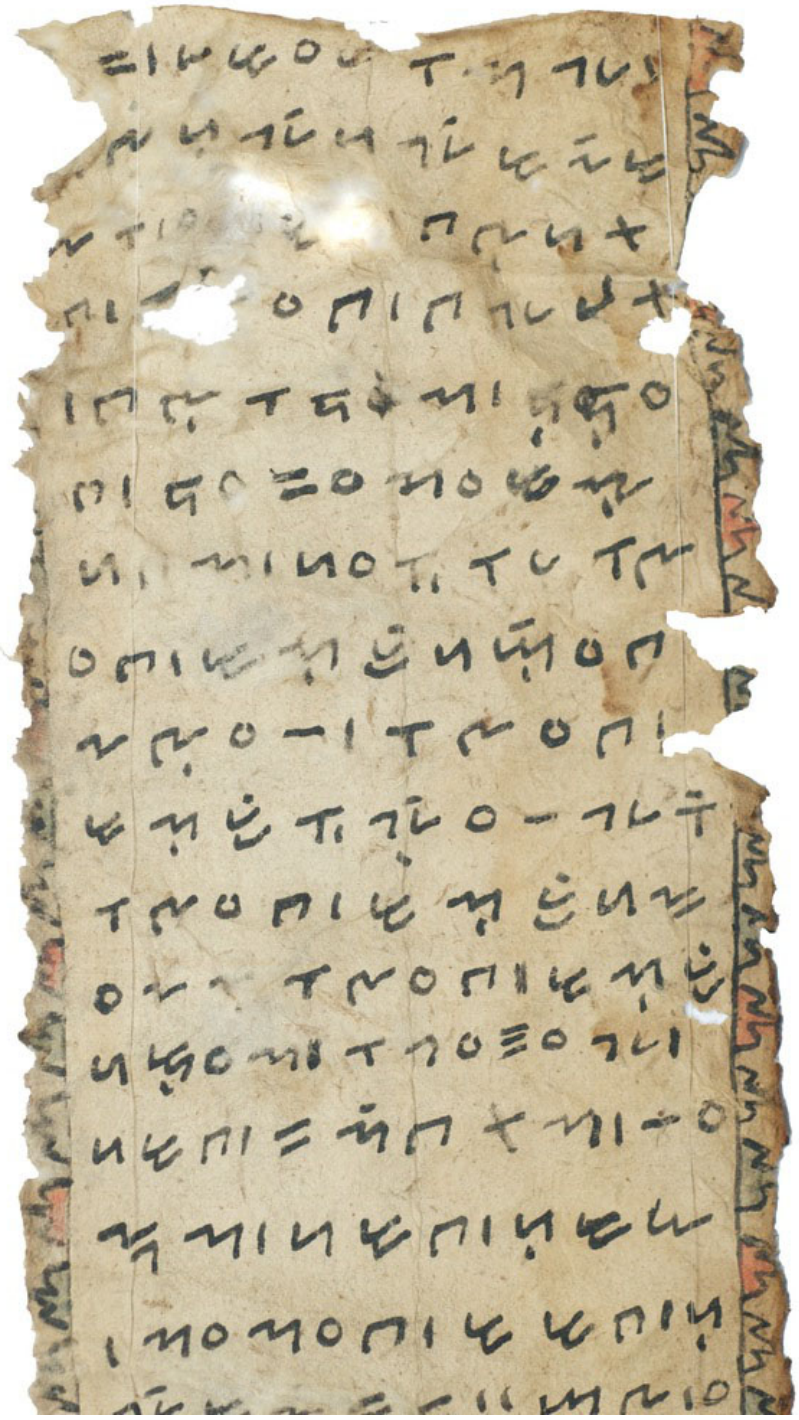
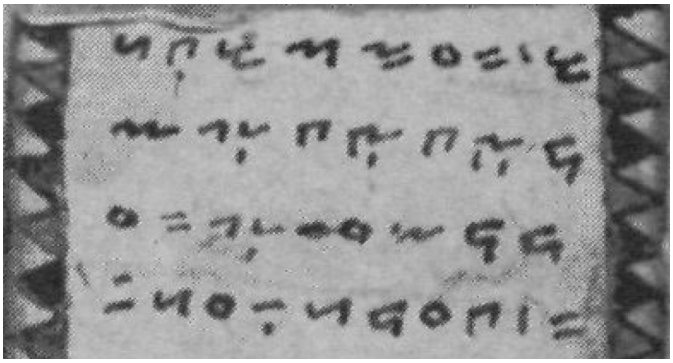


Figure 2: Excerpt of a Kerinci manuscript from the collection of Ijung Tebajo (BL EAP117/29/1/1).

front

back

Figure 3: Buffalo horn manuscript inscribed in Kerinci with the story of the journey of Uti Unduk Pinang Masak and Dayang Berani (EAP117/2/1/1: Horn Manuscript TK 37). The item is from the Depati Singolago Tuo collection. The text is transliterated in *Tambo Kerinci* no. 37 ("Tanduk Bertulisan Rencong").



The text reads (Voorhoeve's spelling): "haku manangis ma / njaru ka'u ka'u di / saru tijada da / tang [hitu hadik sa]", which is translated by Voorhoeve as: "I am weeping, calling you; though called, you do not come" (hitu adik sa- is the rest of 4th line).

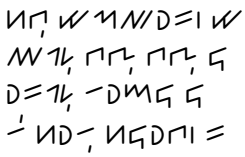


Figure 4: Detail of a Kerinci Rencong manuscript (KITLV Or. 239) containing a poem (from Voorhoeve 170).

Figure 5: Signs with text in Kerinci.