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Universal Multiple-Octet Coded Character Set International Organization for Standardization Organisation Internationale de Normalisation Международная организация по стандартизации

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(Universal Scripts Project)

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Action: For consideration by JTC1/SC2/WG2 and UTC

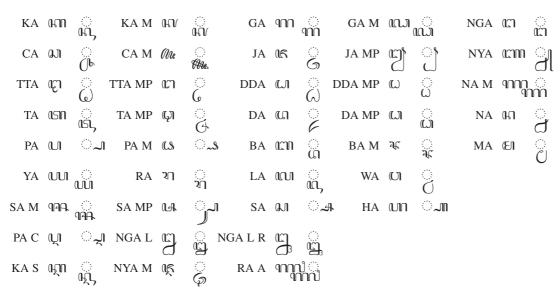
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1. Introduction. The Javanese script, or *aksara Jawa*, is used for writing the Javanese language, the native language of one of the peoples of Java, known locally as *basa Jawa*. It is a descendent of the ancient Brahmi script of India, and so has many similarities with modern scripts of South Asia and Southeast Asia which are also members of that family. The Javanese script is also used for writing Sanskrit, Jawa Kuna (a kind of Sanskritized Javanese), and transcriptions of Kawi (the Kawi script itself is not unified with Javanese), as well as the Sundanese language, also spoken on the island of Java, and the Sasak language, spoken on the island of Lombok. Javanese script was in current use in Java until about 1945; in 1928 Bahasa Indonesia was made the national language of Indonesia and its influence eclipsed that of other languages and their scripts. Traditional Javanese texts are written on palm leaves; books of these bound together are called *lontar*, a word which derives from *ron* 'leaf' and *tal* 'palm'.

2.1. Consonant letters. Consonants have an inherent -a vowel sound. Consonants combine with following consonants in the usual Brahmic fashion: the inherent vowel is "killed" by the PANGKON, and the following consonant is subjoined or postfixed, often with a change in shape: If ndha = If NA + If PANGKON + If DAMAHAPRANA; If <math>nda = If NA + If PANGKON + If DAMAHAPRANA; If <math>nda = If NA + If PANGKON + If DAMAHAPRANA; If DAMAHAPRANA; If PANGKON + If DAMAHAPRANA; If DAMAHAPRANA; If PANGKON + If DAMAHAPRANA; If DAMAHAPRANA;

NOTE: The vocalic letters r, l, and \bar{l} are treated as consonant letters in Javanese; they are not independent vowels with dependent vowel equivalents, as in Balinese or Devanagari. A separately-encoded vocalic letter $*\bar{r}$ does not exist, but is formed by adding $\bigcirc 2$ TARUNG to PA

CEREK: Q12, Q12 (in Sundanese, 3 tolong is used: Q13, Q13). Some orthographies do not use gubjoined NGA LELET RASWADI, but instead use 2 subjoined NGA LELET plus TARUNG (see the section on vowels below for more information on the use of TARUNG). In the table below, the abbreviation M means MURDA 'head'; MP means MAHAPRANA 'aspirate'; the abbreviations C for CEREK 'close', L for LELET 'thick', R for RASWADI 'long', S for SASAK 'Sasak', S for AGUNG 'honorific', are also used.



2.2. Independent vowel letters are used as in other Brahmic scripts, with a few differences. In Kawi orthography, In Kawi and In I are used for i and \bar{i} respectively, but in modern Javanese In I and In II are used for these. Again, 2 tarung is used to compose 3.42 \bar{a} , In 2 \bar{u} , and In 2 \bar{u} . The independent vowel sign 3.4 \bar{a} can bear any of the vowel diacritics.

а ЗА	$ar{a}$ З.А2	i Kawi ্রো	$ar{\imath}/i$ can	\bar{l} \mathfrak{S}	
u m	ū 1572	ес	ai &	<i>o</i> 🔘	au 🔰

2.3. Dependent vowel signs are used in a manner similar to that employed in the Myanmar script. The last two in the table below are found in Sundanese. Those vowels which contain multiple parts are encoded with multiple characters, so *keu* is and ka + Pepet + 2 tarung; *ko* is and ka + Taling + 2 tarung; *kau* is and ka + Dirga mure + 2 tarung; Sundanese *keu* is and ka + Pepet + 3 tolong:

ka un	$kar{a}$ หาก2	kĕ An	keu ษกาว	ki เกิ	$k \bar{\imath}$ $\hat{\mathbf{m}}$
ku ang	$kar{u}$ an	ke agan	kai ຜູ້ເຄກ	ko (G)11112	kau เจ้าเกาว
			keu Ans	ko anns	

NOTE 1: The correct string for 602 keu, for instance, is 600 KA + 60 PEPET + 600 TARUNG. The string 600 KA + 600 TARUNG + 600 PEPET would be equivalent to this, although the character properties should be specifed to prefer the former string over the latter. We propose to work with the UTC to specify this appropriately and correctly in the character properties, as their expertise in character properties is greater than ours.

NOTE 2: The Javanese encoding differs here from that for Balinese. The Balinese encoding maintained the composite model common to the major Indic scripts. This was done because the Balinese user community favoured an encoding model which respected the traditional Sanskrit phonetic analysis. For the Javanese users, on the other hand, one-to-one Sanskrit transliteration is not an important consideration; rather, the Javanese user community favoured an encoding model which was easier to implement and more logical in terms of glyph treatment. The Javanese and Balinese languages are quite different and there is no particular user requirement for one-to-one transliteration between them.

- **2.4. Consonant signs.** The characters PANYANGGA, CECAK, and WIGNYAN are analogues to Devanagari CANDRABINDU, ANUSVARA, and VISARGA and behave in much the same way. Two medial consonant signs are used, PENGKAL and CAKRA, representing -y- and -r- respectively. They contrast with subjoined letters as ya and ra, which may belong to the following word, while PENGKAL and CAKRA are used in ordinary consonant clusters. The choice may also be a matter of *spelling*: the Arabic word *aqrab* 'nearer', for instance may be written unique ak-rab but is usually written unique a-krab.
- 2.5. Syllable-final -r. Javanese is similar to Balinese in the behaviour of final -r. The inherited Kawi form of the script used the LAYAR or repha character in the same way as many Brahmic scripts do: it formed the first element of a syllable, so dharma was written and DA-MAHAPRANA + RA + PANGKON + MA, dha-rma. Because many syllables end in -r in the Javanese language, this written form was reanalyzed and so that word would be pronounced dhamar. In Javanese orthography, dharma is written and encoded DA-MAHAPRANA + LAYAR + MA, dhar-ma. The sequence DA-MAHAPRANA + RA + PANGKON + MA would yield * and compan dir-ya 'appear' and appear' and appear' visible'.) In searching operations, LAYAR should be equivalent to RA, so that word-forms like and dhara 'eat' and and appear 'eaten' will be found together. (The same applies to a wignyan, which should be equivalent to HA, so that word forms like applies to applies to applies to applie that grain of rice' will be found together.)
- **3. Rendering.** There are many conjunct forms in Javanese, though most are fairly regular and easy to identify. Subjoined consonants and vowel signs below usually interact. For example, the vowel signs [u] and [u:] take different forms when combined with subscripted consonant clusters. The upper limit of consonant clusters is three, the last of which can be -ya, -wa, or -ra.

$$ku$$
 \mathfrak{sol} $k\bar{y}u$ \mathfrak{sol} $ky\bar{u}$ \mathfrak{sol} $kw\bar{u}$ \mathfrak{sol} $kw\bar{u}$ \mathfrak{sol} $kr\bar{u}$ \mathfrak{sol} $kr\bar{u}$ \mathfrak{sol} $kr\bar{u}$ \mathfrak{sol} \mathfrak{sol} \mathfrak{sol} \mathfrak{sol} \mathfrak{sol} \mathfrak{sol} \mathfrak{sol} \mathfrak{sol} \mathfrak{sol}

A number of base letters are augmented with CECAK TELU to represent foreign sounds. Some of these are well-attested.

$$xa$$
 $\mathring{\Pi}$ $\mathring{\Box}$ γa $\mathring{\Pi}$ $\mathring{\Box}$ za $\mathring{\Box}$ $\mathring{\Box}$ dza $\mathring{\Box}$ $\mathring{\Box}$ fa $\mathring{\Box}$ \ddot{a} $\ddot{\Box}$ \ddot{a} \ddot

These represent Arabic \dot{z} , \dot{z} , \dot{c} , \dot{c} , \dot{c} , \dot{c} , \dot{c} , and \dot{c} respectively. In rendering, the dots of these letters appear above the top character, which can cause some ambiguity in reading; is most likely to be kza KA + PANGKON + JA + CECAK-TELU, but could be read xja KA + CECAK-TELU + PANGKON +

JA, or indeed xza KA + CECAK-TELU + PANGKON + JA + CECAK-TELU. In practice these combinations are probably rather rare.

- **4. Digits.** Javanese has its own digits, seven of which (900 1, 90) 2, 900 3, 6, 900 7, 900 8, 900 9) look just like the letters <math>900 ga, 900 ga, 900 ga, 900 ga, 900 ga, 900 ga, 900 ga. Implementations with security concerns should take this into account. The SPADA LINGSA is often used with digits in order to help to distinguish them, as in 900 ga 900 ga 900 ga. (It should be noted that this is not the only use of PADA LINGSA; when Javanese letters are used to spell out the names of Latin letters, it is used, again flanking the letter: 900 ga 900 g
- 5. Punctuation. A large number of punctuation marks are used in Javanese. Titles may be flanked by the ornamental LEFT RERENGGAN and RIGHT RERENGGAN characters and —the glyph variation for these may vary widely (the reference glyphs in the chart were chosen because of their sensitive design). The \PADA LINGSA corresponds to the comma (but see the section on Digits above for more about PADA PADA LINGSA), and the \PADA LUNGSI to the full stop; it is also used as a "ditto" mark in vertical lists. The PADA PANGKAT is used much like the European colon. The \PADEG-ADEG typically begins a paragraph or section, while the simple \PADEG is used as a common divider though it can be used in pairs marking text for attention. The two PISELEH characters are used similarly, either both together or with the first simply repeated. The punctuation ring \(\text{ WINDU is not used alone, similarly to its Balinese counterpart U+1B5C. When used with two ADEG-ADEGS \(\text{ opi it is called } pada \text{ guru, pada bab, or } uger-uger, \text{ and is used to begin correspondance where the writer does not desire to indicate a rank distinction with his audience. More formal letters may begin with one of the three signs \(\text{ pada ANDAP (used when addressing a higher-ranked person), or \(\text{ pada LUHUR (used when addressing a lower-ranked person). The PADA LUHUR is also traditionally combined in a formulaic way:

Purwa-pada (The State of Companies) or (The State of Companies) has two optional PADA LUNGSI characters flanking the syllable bcha (sometimes (The bca) between them. It is used at the beginning of a poem. A NBSP is normally put between the characters; these PADAs should not be broken.

Madya-pada (m_1) m_2 (m_1) or (m_1) or (m_1) has two optional PADA LUNGSI characters flanking the syllable ndra between them. It is used at the beginning of a song, where the melody changes.

Wasana-pada (T) M (T) or (T) M has two optional PADA LUNGSI characters flanking the vowel letter i between them. It is used at the end of a poem.

At the ends of texts, \triangle PADA LUNGSI and WINDU may be combined to form PANCAK, \bigcirc \triangle or \triangle \bigcirc \triangle , which often have additional space between them and can be used to fill out a line \triangle \bigcirc \triangle \bigcirc \triangle \bigcirc \triangle as shown here.

Three additional characters have interesting uses. One is common enough, and the other two less so. The PADA PANGRANGKEP is used to show the reduplication of a syllable: Then buku 'book', the buku' book', the character derives from the Arabic digit "2" (encoded as U+0662) but in Javanese it does not have a numeric use. It is proposed as a separate character because of the bidirectional properties of the Arabic digit. U+0662 causes the expectation of bidi text on one side or another. Although this might not matter very much because it would tend to be isolated amongst strongly left-to-right characters, it would cause a discontinuity because U+0662's bidi type is AN (Arabic Number).

0662; ARABIC-INDIC DIGIT TWO; Nd; 0; AN;; 2; 2; 2; N;;;;; A9CF; JAVANESE PADA PANGRANGKEP; Po; 0; L;;;;; N;;;;

6. Ordering. The traditional order HA NA CA RA KA | DA TA SA WA LA | PA DDA JA YA NYA | MA GA BA THA NGA is taught in schools. (The order is a Javanese sentence *hana caraka*, *data sawala*, *paḍa jayaña*, *maga baṭanga*, which means 'There were (two) emissaries, they began to fight, their valour was equal, they both fell dead'.) The arrangement of characters in the code table here follows the Brahmic ordering, for transparency to implementors of ISO/IEC 10646 and Unicode. Javanese experts have decided that a Javanese locale should offer two ordering choices to Javanese users. One is derived from the *hanacaraka* order. Note that and RA AGUNG interfiles with a RA.

ઉત્ત
$$a > 3$$
ન્ય $\bar{a} > 3$ ને $\bar{e} > 3$ ન્ય $\bar{o} > 3$ ને $eu >$ ્ર્લા $i >$ ્રા $i >$ ્રા $u >$ $u >$ \text{Un } $u >$ \text{U

The other order is based on the standard Sanskrit ordering. Note that 9000 RA AGUNG interfiles with 20 RA.

$$3Aa > 3A2 \bar{a} > 3A \bar{e} > 3A2 \bar{o} > 3A2$$

7. Linebreaking. Opportunities for linebreaking occur after any full orthographic syllable. Hyphens are not used. We propose to work with the UTC to specify this appropriately and correctly, as their expertise in character properties is greater than ours. The general syllabic pattern is ((C(N)F))C(N)((R)Y)(V(V))(Z) where C is a Letter, N is CECAK TELU, F is VIRAMA, R is CAKRA, Y is PENGKAL, V is a VOWEL SIGN, Z is PANYANGGA or CECAK or LAYAR or WIGNYAN.

NOTE: In some printed texts, an epenthetic spacing of Taling is placed at the end of a line when the next line begins with of Taling (e) or of Taling Taring Taring (o), which is vaguely reminiscent of a specialized hyphenation (or of quire marking). This practice—which is similar to the German Zucker > Zuk-ker hyphenation problem—would be nearly impossible to implement in a free-flowing text environment such as a web page or a word-processing document, and the user community has agreed that they have no expectations that software would support this practice. Typographers wishing to duplicate a printed page could manually insert NBSP or NNBSP before Taling at the end of a line, but this would not be orthographically correct.

8. Unicode Character Properties

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A980; JAVANESE SIGN PANYANGGA; Mn; 0; NSM; ;; ;; N; ; ardhacandra; ;;
A981; JAVANESE SIGN CECAK; Mn; 0; NSM; ;; ;; N;; anusvara; ;;
A982; JAVANESE SIGN LAYAR; Mn; 0; L;;;;; N;; repha;;;
A983; JAVANESE SIGN WIGNYAN; Mc; 0; L;;;;; N;; visarga;;;
A984; JAVANESE LETTER A; Lo; 0; L;;;;; N;;;;;
A985; JAVANESE LETTER I KAWI; Lo; 0; L;;;;; N;; i;;;
A986; JAVANESE LETTER I; Lo; 0; L;;;;; N;; Kawi ii or i;;;
A987; JAVANESE LETTER II; Lo; 0; L;;;;; N;; ii;;;
A988; JAVANESE LETTER U; Lo; 0; L;;;;; N;;;;;
A989; JAVANESE LETTER PA CEREK; Lo; 0; L;;;;; N;; vocalic r;;;
A98A; JAVANESE LETTER NGA LELET; Lo; 0; L;;;;; N;; vocalic 1;;;
A98B; JAVANESE LETTER NGA LELET RASWADI; Lo; 0; L;;;;; N;; vocalic 11;;;
A98C; JAVANESE LETTER E; Lo; 0; L;;;;; N;;;;;
A98D; JAVANESE LETTER AI; Lo; 0; L;;;;; N;;;;
A98E; JAVANESE LETTER O; Lo; 0; L;;;;; N;;;;;
A98F; JAVANESE LETTER KA; Lo; 0; L;;;;; N;;;;
A990; JAVANESE LETTER KA SASAK; Lo; 0; L;;;;; N;; qa;;;
A991; JAVANESE LETTER KA MURDA; Lo; 0; L;;;;; N;; kha;;;
A992; JAVANESE LETTER GA; Lo; 0; L;;;;; N;;;;
A993; JAVANESE LETTER GA MURDA; Lo; 0; L;;;;; N;; gha;;;
A994; JAVANESE LETTER NGA; Lo; 0; L;;;;; N;;;;
A995; JAVANESE LETTER CA; Lo; 0; L;;;;; N;;;;;
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A996; JAVANESE LETTER CA MURDA; Lo; 0; L;;;; N;; cha;;;
A997; JAVANESE LETTER JA; Lo; 0; L;;;;; N;;;;;
A998; JAVANESE LETTER NYA MURDA; Lo; 0; L;;;;; N;; jnya;;;
A999; JAVANESE LETTER JA MAHAPRANA; Lo; 0; L;;;;; N;; jha;;;
A99A; JAVANESE LETTER NYA; Lo; 0; L;;;;; N;;;;;
A99B; JAVANESE LETTER TTA; Lo; 0; L;;;;; N;;;;;
A99C; JAVANESE LETTER TTA MAHAPRANA; Lo; 0; L;;;;; N;; ttha;;;
A99D; JAVANESE LETTER DDA; Lo; 0; L;;;;; N;;;;;
A99E; JAVANESE LETTER DDA MAHAPRANA; Lo; 0; L;;;;; N;; ddha;;;
A99F; JAVANESE LETTER NA MURDA; Lo; 0; L;;;;; N;; nna;;;
A9A0; JAVANESE LETTER TA; Lo; 0; L;;;;; N;;;;
A9A1; JAVANESE LETTER TA MURDA; Lo; 0; L;;;;; N;; tha;;;
A9A2; JAVANESE LETTER DA; Lo; 0; L;;;;; N;;;;
A9A3; JAVANESE LETTER DA MAHAPRANA; Lo; 0; L;;;;; N;; dha;;;
A9A4; JAVANESE LETTER NA; Lo; 0; L;;;;; N;;;;;
A9A5; JAVANESE LETTER PA; Lo; 0; L;;;;; N;;;;
A9A6; JAVANESE LETTER PA MURDA; Lo; 0; L;;;;; N;; pha;;;
A9A7; JAVANESE LETTER BA; Lo; 0; L;;;;; N;;;;;
A9A8; JAVANESE LETTER BA MURDA; Lo; 0; L;;;;; N;; bha;;;
A9A9; JAVANESE LETTER MA; Lo; 0; L;;;;; N;;;;
A9AA; JAVANESE LETTER YA; Lo; 0; L;;;;; N;;;;
A9AB; JAVANESE LETTER RA; Lo; 0; L;;;;; N;;;;
A9AC; JAVANESE LETTER RA AGUNG; Lo; 0; L;;;;; N;;;;;
A9AD; JAVANESE LETTER LA; Lo; 0; L;;;;; N;;;;;
A9AE; JAVANESE LETTER WA; Lo; 0; L;;;;; N;;;;
A9AF; JAVANESE LETTER SA MURDA; Lo; 0; L;;;;; N;; sha;;;
A9B0; JAVANESE LETTER SA MAHAPRANA; Lo; 0; L;;;;; N;; ssa;;;
A9B1; JAVANESE LETTER SA; Lo; 0; L;;;;; N;;;;
A9B2; JAVANESE LETTER HA; Lo; 0; L;;;;; N;;;;
A9B3; JAVANESE SIGN CECAK TELU; Mn; 7; NSM; ;; ;; n; ; nukta; ;;
A9B4; JAVANESE VOWEL SIGN TARUNG; Mc; 0; L;;;;; N;; aa;;;
A9B5; JAVANESE VOWEL SIGN TOLONG; Mc; 0; L;;;;; N;; o;;;
A9B6; JAVANESE VOWEL SIGN WULU; Mn; 0; L;;;;; N;; i;;;
A9B7; JAVANESE VOWEL SIGN WULU MELIK; Mn; 0; L;;;;; N;; ii;;;
A9B8; JAVANESE VOWEL SIGN SUKU; Mn; 0; NSM; ;;;; N;; u;;;
A9B9; JAVANESE VOWEL SIGN SUKU MENDUT; Mn; 0; NSM;;;;; N;; uu;;;
A9BA; JAVANESE VOWEL SIGN TALING; Mc; 0; NSM; ;; ;; N; ;e; ;;
A9BB; JAVANESE VOWEL SIGN DIRGA MURE; Mc; 0; NSM;;;;; N;; ai;;;
A9BC; JAVANESE VOWEL SIGN PEPET; Mn; 0; L;;;;; N;; ae;;;
A9BD; JAVANESE VOWEL SIGN KERET; Mn; 0; NSM;;;;; N;; re;;;
A9BE; JAVANESE CONSONANT SIGN PENGKAL; Mn; 0; NSM;;;;; N;; medial ya;;;
A9BF; JAVANESE CONSONANT SIGN CAKRA; Mn; 0; NSM; ;; ;; N; ; medial ra; ;;
A9C0; JAVANESE PANGKON; Mc; 9; NSM;;;;; N;;;;;
A9C1; JAVANESE LEFT RERENGGAN; Po; 0; L;;;;; N;;;;;
A9C2; JAVANESE RIGHT RERENGGAN; Po; 0; L;;;;; N;;;;;
A9C3; JAVANESE PADA ANDAP; Po; 0; L;;;;; N;;;;;
A9C4; JAVANESE PADA MADYA; Po; 0; L;;;;; N;;;;;
A9C5; JAVANESE PADA LUHUR; Po; 0; L;;;;; N;;;;;
A9C6; JAVANESE PADA WINDU; Po; 0; L;;;;; N;;;;;
A9C7; JAVANESE PADA PANGKAT; Po; 0; L;;;;; N;;;;
A9C8; JAVANESE PADA LINGSA; Po; 0; L;;;;; N;; danda;;;
A9C9; JAVANESE PADA LUNGSI; Po; 0; L;;;;; N;; double danda;;;
A9CA; JAVANESE PADA ADEG; Po; 0; L;;;;; N;;;;;
A9CB; JAVANESE PADA ADEG-ADEG; Po; 0; L;;;;; N;;;;;
A9CC; JAVANESE PADA PISELEH; Po; 0; L;;;;; N;;;;;
A9CD; JAVANESE TURNED PADA PISELEH; Po; 0; L;;;;; N;;;;;
A9CF; JAVANESE PADA PANGRANGKEP; Po; 0; L;;;;; N;;;;
A9D0; JAVANESE DIGIT ZERO; Nd; 0; L; ; 0; 0; 0; N; ; ; ;
A9D1; JAVANESE DIGIT ONE; Nd; 0; L;; 1; 1; 1; N;;;;;
A9D2; JAVANESE DIGIT TWO; Nd; 0; L;; 2; 2; 2; N;;;;;
A9D3; JAVANESE DIGIT THREE; Nd; 0; L; ; 3; 3; 3; N; ; ; ; ;
A9D4; JAVANESE DIGIT FOUR; Nd; 0; L; ; 4; 4; 4; N; ; ; ;
A9D5; JAVANESE DIGIT FIVE; Nd; 0; L; ; 5; 5; 5; N; ; ; ; ;
A9D6; JAVANESE DIGIT SIX; Nd; 0; L; ; 6; 6; 6; N; ; ; ;
A9D7; JAVANESE DIGIT SEVEN; Nd; 0; L;; 7; 7; 7; N;;;;;
A9D8; JAVANESE DIGIT EIGHT; Nd; 0; L;; 8; 8; 8; N;;;;;
A9D9; JAVANESE DIGIT NINE; Nd; 0; L;; 9; 9; 9; N;;;;;
A9DE; JAVANESE PADA TIRTA TUMETES; Po; 0; L;;;;; N;;;;;
A9DF; JAVANESE PADA ISEN-ISEN; Po; 0; L;;;;; N;;;;;
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Figures.

		Jav	ani	scl	1.		,					
Gewö	hnliche Buchs	staben.			_	Anfa	ngsb	uchs	taben			
Gew. Figur	Pasangans	Name u. Lant	Gev	. Fig	ur]	Pasan	gans		Nam	e u. L:	ut
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• acnan · ·	٠٠ ال	njå	men.	werd	en ges he aus Alph	seizt, s dem inbete	wen: Ara kein	ı sole bische e Bu	he in en star chstab	Wört nmen en gi	ern voi , da c bt, die	kon
. • (E)		må			1,3	ut ge	nugen	d ent	sprech	en,		
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m/	· ની ·	På-tjere', rĕ	ฉกก	9	9	6	9	ے	an	æs,	auti	0
ا ٠٠ ال		Ngå-lelet, lĕ	1	2	3	4	5	6	7	8	9	ò

Figure 1a. Discussion of the Javanese alphabet from Ballhorn 1864. The basic alphabet of consonants and independent vowels is shown along with most of their subjoined forms. Digits are also shown, as are letters extended with CECAK TELU.

	Vocal- und Sandangan	
Figur	Name	t Lant oder Bedeutung
::::::::	Pěpět	ě
::::::	Ulu oder Wulu	i
·, ; .	Suku	и
٠. ٩٠	Taling	e
- m 3 -	Taling-Tarung	0
٠٠ ل ٠٠	Paten oder Pánkon	(benimmt einem Buchstaben den Vokallaut)
	Ságnjan oder Wignjan	h (steht am Ende einer Sylbe)
11:11:	Tjětj'a .	ng (am Ende einer Sylbe)
:::::	Lajar	f' (am Ende einer Sylbe)
- (oder 📞 .	Tjåkrå	r (zwischen einem Mitlauter und dem folgenden Laut)
· · ¿3 · · ·	Kĕrĕt	re (nach einem Mitlauter)
٠٠٠ ال	Pĭnkal	j (nach einem Mitlauter)
	Podos ode	
lam a a	dieser Benenning hat die Jas	ranische Schrift folgende Zeichen: Podo underging tjelatu, auch dirgo muraras gr
Höhere seinen	diesem Zeichen beginnt der Brief an den Niedern. rird auf dieselbe Weise zu	nannt, steht zuweilen statt des Fodo-lingso; a meisten wird es gebraucht bei Zuhlen, um die von den verhergehenden oder nachfolgende Wörtern zu trennen,
Aniang eines Br	riefes gebraucht bei Personen Range.	 Ulu munta. Ist der Vokal in der tetzten Sylbe vo einem Wort ein Ulu, so hat dieses Läutzeiche in der Mitte ein Tjetja.
Podo andap, ge fang seines Bri	braucht der Nicdere zu An- efes an den Höbern.	Suku mendul. 1st der Vokal in der Istzten Sylb ein Suku, so hat dasselbe diese Gestalt.
tes, eines Salzi	1	Dirgo mure heisst das Zeichen über dem Talin oder Taling-Tarung, wenn dieser Vokal in de letzten Sylbe steht.
zeichen, steht an ter tür sieh best ten oder Gesär	gewöhnliche Interpunktions- n Ende eines Satzes oder hin- ehenden Wörtern; in Gedich- igen zu Ende der Verse als	2 Podo watjan anglegenno. Unter dieser Benennun wird des Tarung auch als Trennungszeiche gebraucht.
hintereinander	en, da die Javanen ihre Verse schreiben wie die Prosa. Am bschnittes wird es verdoppelt.	Piseleh ing temhang gede, bei Gedichten ein Ab theilungszeichen.
Purmo-podo, steht zu Anfeines Gedichts.	Madyo-podo, zu Anfang	cines neuen Gesan- Wasono-podo, am Ende eine

Figure 1b. Discussion of the Javanese alphabet from Ballhorn 1864. The basic dependent vowels and consonant signs are shown, along with a description of punctuation characters. *Purwa pada* is shown with the beha (cf. Figure 12).

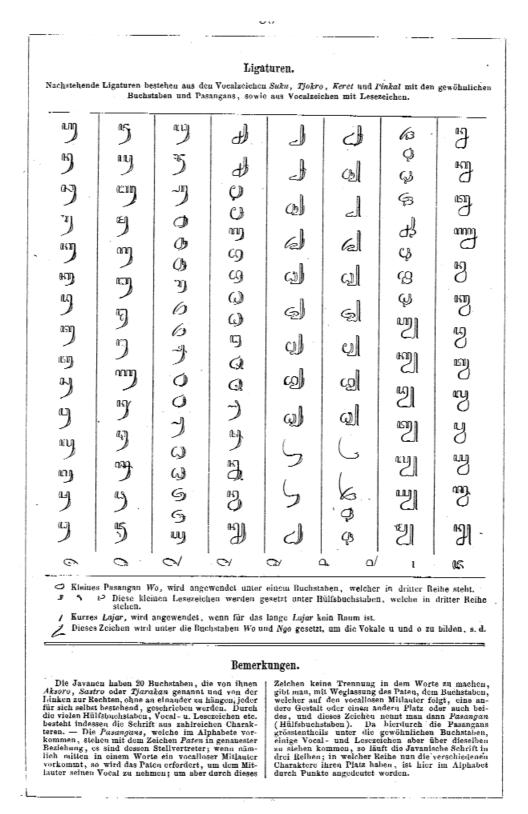


Figure 1c. Discussion of the Javanese alphabet from Ballhorn 1864. A set of typographic conjuncts is shown, with some notes about their use.

JAVANISCH

Gew. Zeichen	Ligatur- zeichen	Um- schriß	Name	Zeichen	Um- schrift	Remerkungen	Zciehen	Umsehrift
ເທ	~00	hå	Vokal- u	Vokal- und Lesezeichen (Sandangan)				ende Vokale
вo	<u>a</u>	nå	Pĕpĕt	0	ě		હસ્ત્ર	a
(A)		tjå	Wulu	Δ	i		œn	i
וער	71	rå	Suku		u		12	u
ເດກ	нι	kå då	Taling	" J"	e		۵	e
เผา เรก	6	tâ	Taling-		,	-	2	o
a.a	1617 	så	Tarung	10 2				ien für
(L)		wä	Paten oder Pangkon			nimmt einem Buchstaben den Vokallaut	arabisc	he Laute
CCU1		lå	Wignan	१	h	am Ende einer Silbe	ໜ້າ ລ	h
ал	∽ ا	$p\hat{a}$	Tjětjak	1		am Ende cincr	Kij a	k
យា	W	då		/	ng	Silbe am Ende einer	ű	ð
OCS.	- Go	djå	Layar	1 /	r	Silbe (zwischen einem	ű.	j
- OUG	0.00	yå	Tjåkrå	ل بر ال	r	Mitlant und dem folgenden Laut	ណិ ÷	S
azan	الو	njå	Kĕrĕt		rě	pach einem Mit- laut	ด์กัก 	· g
Œ	(°)	md	Pingkal	ر _ي ار	yå	nach einem Mit- laut	اث	p
ดกก	900)	gå	Ü	ZJ		: lade	Œ,	ng
(CD)	വ	bå	Allgemeine	s. Die jav	anische	Sprache, die	von der B	cvölkerung
<u>ස</u> ස	W	ţâ ngâ	Menschen,	ist ein Zv	veig d	en wird, d. h. es malaiisch-p	olynesische	n Sprach-
ų.	4j	rĕ	Das Javanis	che enthält	eine b	er altjavanische eträchtliche M	enge Lchn	wörter aus
g (lĕ	wird. Die	javanische	Schrift	grammatische hat sich rege	elmäßig an	s der alten
ا م	'급					he ihrerseits chrift läuft von		
Anfa	ngsbuchst		drei Reihen Ligaturzeiche	, wobei di en die unte	c gewe	ihnlichen Zeic cinige Vokal-	hen die m und Lese	ittlere, die zeichen die
ดภาก		Nå	oberc Reihe	hilden, wi	e dies	oben durch pu nanten den V	ınktierte Li	nien ange-
	A.	Tjå Kå	werden in n	nanchen Fä		att des Zeicher		
. ५२ ५३	(KTV	Tå	zeichen ange Ziffern.	swenget.				
CS.	Q		നെ വ		6 6	ر س	as,	un o
data.		Så	$1 \stackrel{\textstyle \sigma}{\underset{2}{}{}}$	\subseteq $\frac{1}{3}$	4 5	6 7	8	9 0
as	~3/ aut	På	Interpunkti	ion.				
U.S		Njå	Komma	\ halbe	Pause	🔪 ganze l	Pause	Abschnitt
acr. 3	90031	Gå	Literatur.		т	shan Courte 7	Wien e 1	(Die Kronet
4 5	14	Bâ	Bohatta, Lehrbuch der Javanischen Sprache, Wien o. J. (Die Kunst der Polyglottie, herausgegeben von A. Hartlebens Verlag).				erlag).	

Figure 2a. Discussion of the Javanese alphabet from the Reichsdruckerei 1924. The basic alphabet of consonants and independent vowels is shown along with most of their subjoined forms, as are the basic dependent vowels and consonant signs, along with a description of punctuation characters. Digits are also shown, as are letters extended with CECAK TELU.

JAVANISCH

	, ·		Ligatur	en			
Verbindung mit Suku	uj	~nj	O		(a)	Verbindung mit Tjåkrå	w)
uŋ	icanj	-ng	O		(ي)	-(,	킨
l w ₀	(E)	0	any		ල)	. (Andere Konsonanten-
15)	anıj	(3)	(3)		ω	- K3	verbindungen
139	ing	()s	(C)			Verbindung mit Kërët	# <u>1</u>
7		79	ω		()	₽ ₽	100
кŋ	9	6	15)		ر اا	<i>(</i> B	
ெ	9	3	Q		. (L) . (1	Q)	27
ig	anny	- - 3	Q)			ල ආ	100 E
usŋ	y.	<i>(</i>))		Verhindung mit Patén	J.	(H)
100	T)	() ~1	3		ال ا	eş	EU EB
1 3	9) -J	89		Q)	ති ති	를 일 당 당
9	nag.	(J)	H		6	Verbindung mit Pingkal	0 <u>Z</u> 0
n,	3	G) }	ال ا		ଧା	سالات الم	
ing	5	ල ල	_}		હ્યી		20
y	ang i	uj	ري		إي	2	in)
<i>u</i> y.	uŋ	d	<i>(</i>		col	7	ony.
5	3	d	ယ္)		യി		A
,	ne Zeichen.			n Ta	ling, am Schl	uß eines Wo	ortes.
Mit d	liesem Zeichen Ilte scinen Brie	beginnt der H fan einen Nice	öher- leren. 2	/	rd als Trenn		
Am A Perso	nfang eines Br onen im gleich	riefes gebrauch en Range.	it von [teilungszeicher mmengesetzte		
Mit d	Mit diesem Zeichen beginnt der Niedere seinen Brief an einen Höhergestellten.						,
		eines Wortes.		Klein	ne Lesezeichen	h & /	21
Die javanisel	hen Typen sine	l ein Erzeugni	s der Sch	riftgie	eßerei Joh. Ens	schedé en Zon	en, Haarlem.

Figure 2b. Discussion of the Javanese alphabet from the Reichsdruckerei 1924. A set of typographic conjuncts is shown, with some notes about their use, and some comments about punctuation. The PISELEH is shown, described as 'a division sign used in poetry'.

〈表 2〉 プ	ウィ文字	表		
(母音字	:>			
6sta	6 .≉ 2ā	च्या (eig. 👣)i	a≝u ⊥
2"	12 i	Ńi	(rě)	Ų 3 ř (rö)
91 (lč)	J 1 (16	ნ) ८ е	Łαi	9 0.
(子音学	:)			
em ka	w kha	un ga	****	
63) ca	t — cha	a≲ ja	$\mathfrak{D}^{\mathrm{jha}}$	açın ı na
ព្ ta		ta ḍa		duu u iia
6 00 ta	👣 tha	to da	u dha	4 Ω na
u pa	🖎 pha	u⊏n ba	🕶 bha	∉A ma
ш луа	an n	anu la	(A) wa	
oga ca	tst sa	⊌ sa	om ha	

Figure 3. The Javanese alphabet as used for Kawi, from Kôno et al. 2001. No base-letter for CA MURDA, TTA MAHAPRANA, or DDA MAHAPRANA is shown, and the same glyph is used for DDA and DA MAHAPRANA.

		Frembe !	Buchstaben.	
Hake	sårä	Sprache, b	ides Zeichen der er es entlehnt ist resp. Walagisch)	Transscription und Aussprache
ນກົ	υń	ح ا	(arabijd)	<u>h</u>
េសព៌	αñ	<u>خ</u> ذ	"	k -
ιŝ	аĠ	ذ	"	đ
ů.	as-	ز ا	u	j
oúi	கர்	ش	"	<u>s</u>
າດກີ	ñ	ش غ ف	n	<u> 5</u>
ů.	û	فَ	"	<u>p</u>
ń	υ'n	ڠ	(malayish)	ng

Figure 4. Extended Javanese letters for foreign sounds, from Bohatta 1892.

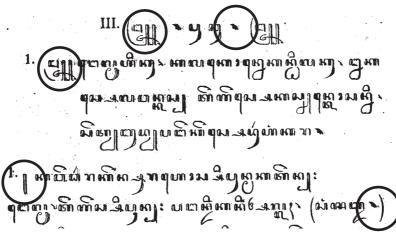


Figure 5. In the title, the characters PADA LUHUR and PADA LUNGSI are used, flanking the word *pucung* 'song'. The PADA ANDAP is shown beginning the poem, and the ADEG-ADEG is shown at the beginning of the main section. In the last line generic parentheses are shown, indicating their correct size and placement in Javanese text.

Kawa	Jav Gewohnl, Zeichen	an. Zeichen in Ligatur	Redlang. Schrift	Lampong- Schrift	Battak	Bugines makasear.	Tagala	Вінаув
31 91 &	13,59 N.J.II N.J.II N.J.II				 = 	~∴	¥∕ <u>≔</u> 3	√ ≈× 3
6	KII	ю	٨	^	₹~)	"	X,	Ĭ.
e C	ากก	ivii	^	/	\sim	'n	31	N
b L	ຫາ ແນ	nign Ub∙	NI M	WW FJS	< Ž-	~	מל	
E	NZ	6	Ø	Ņ	<-	2		
(س)	ሊጋለ ነ ሊግ	A	<i>,</i> ~	[חייא	6	æ		
&	WI	Ü						
50	กรภ	USI_	A		۵۲۰	^	Z	
\$ \$\mathcal{E}\$	na	6	M	4	<	•	に	5 V
ر ا ا	\mathbb{A}	ð	^	امراس لسا	-0 -	<i>د</i> ع	30 30	3
ඩ ව	າວນາ	ଲ		MIS	အ	^	S	0
้ ย พ	EN WI	nin	ex W	₩	<i>\$</i> 2	✓	&> to	λ,
5 N 8	UN UN UN	7/1 7/1 1/2	≈ N M3	८८ //Z २३	رة ب س	%	₹ ე	3~
ij	in M	ان ا	M/N/I	ħπ	z	90	V3	VL
(J	w	ın	SH	54	27	o	√ >	S

Figure 6. Chart showing the history of Javanese and related scripts from Jensen 1969.

Figure 7. Paired ADEGs are shown here, acting as parentheticals.

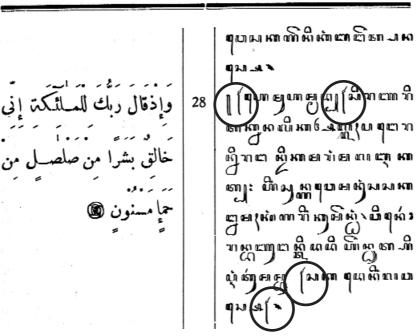


Figure 8. Some text from the Qur'an with Javanese translation. The ADEG-ADEG is shown as are two pairs of PADA PISELEH.

Figure 9. Paired PADA PISELEH and TURNED PADA PISELEH are shown here, acting as parentheticals. The final in each pair is followed by PADA LINGSA.

Figure 10. The reduplication mark PADA PANGRANGKEP is shown here in the third line of this text in Sundanese, indicating that with kira should be read kira-kira 'approximately'.

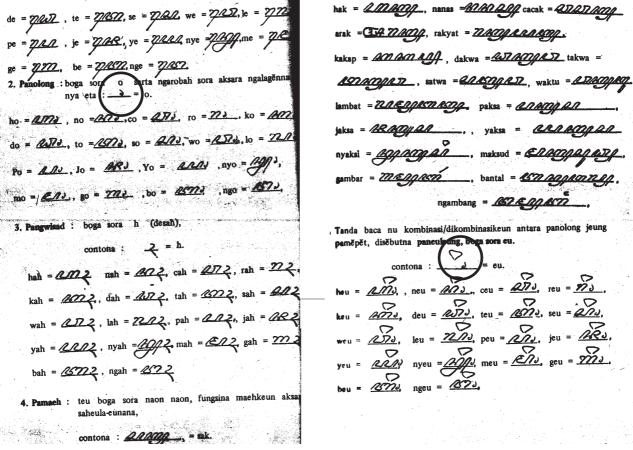


Figure 11. A Sundanese grammar book showing TOLONG used by itself to indicate o and following PEPET to indicate eu.

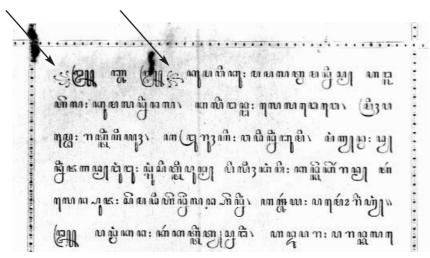


Figure 12. Example of a rather elegant typeface showing LEFT RERENGGAN and RIGHT RERENGGAN the first line surrounding *purwa pada*, shown with the bca (cf. Figure 1b).

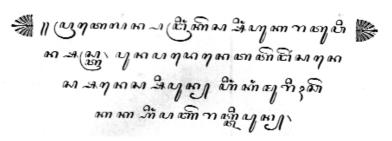


Figure 13. Example showing a different glyph style of LEFT RERENGGAN and RIGHT RERENGGAN.

Dina ieu buku (katja 8 – 9) aksarana digunduk-gunduk, didjicun ketjap² nu marele, luju djeung nu katjatur dina dongeng sasakalana eta tjatjarakan tea (tingali buku "Dongeng-dongeng sasakala" rekaan Rd. Satjadibrata). Nu dipalar supaja babari apalna.

hana tjaraka = aja utusan

LOAN DAANTA data sawala = parasea

MAN ARAMAN pada djajanja = sarua gagahna

MAN ARAMAN maga balanga = tungtungna parach.

Tina aksara nu sakitu (20) ku Sunda mah mung dianggo 18 rupi. Nu teu dianggo nja eta LA sarčng 187. Nanging sabalikna ditambahan ku aksara gcusan ngagambarkeun sora uni. Seueurna aksara uni aja 7 rupa, nja eta G.A. 1871. 1

Figure 14a. Text from a Sundanese grammar showing $m \tilde{n}a$ (for $m \tilde{n}a$) and tolong in a eu.

4. Paneuleung.

Sku diteuleung atawa dilarapan paneuleung.

Sapara dilarapan paneuleung.

Sapara

Figure 14b. Text from a Sundanese grammar showing TOLONG in \Im -eu and in \Im -o.

I. AKSARA² TEA SADAJANA PADA NGAGADUHAN PASANGAN. Sadjaba ti djadi gagantina aksara tea, eta pasangan kasiatna teu beda ti pamaeh. Tempatna aja anu tukangeun aja nu handapeun aksara biasa. Kieu pareleanana:

m, d'an m'm was a con a con d'e'm an in

ha, na, tja, ra, ka. da, ta, sa, wa, la, pa, dja, ja, nja, ma, ga, ba, nga

Figure 14c. Example showing TOLONG as the lengthener in was -reu and in was -leu (not was or was).



Figure 16. Calligraphy by a school-age artist illustrating a renaissance taking place amongst young people in Java. Illustrations made out of letters are unknown in Bali, for instance; it may be the case that influence from the Arabic calligraphic tradition has inspired new Javanese calligraphy. The text on this chilli pepper, drawn by Luky Daniar, reads: প্রের্জনির্জনির প্রের্জনির প্রের্জনির পরিক্রামার desa mawa cara, nĕgara mawa tata 'A village needs rules, a nation needs law'.



Figure 17. A street-sign in Surakarta.



Figure 18. Plaque in Javanese script, from the Mayor of Surakarta's office.



Figure 19a. Javanese language teacher in a primary school in Surakarta.



Figure 19b. Javanese language class in a primary school in Surakarta.

Row A9: JAVANESE DRAFT

	A98	A99	A9A	A9B	A9C	A9D
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2	Ó	900	ധ	un		
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5	Ą	IJ	េា	୍ର 2		3
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7	(Zn	IK	แวก	9	ະ	വ
8	n	Œ	K	ુ	7	(LS)
9	Ų	m	ŒI	ু	T	w
Α			w		l	
В		Ų	ગ્ર∩		ll	
С	G	យា	ขากบ้	6		
D	É	W	സ	្ង		
Е		\mathbb{C}	Ø	<u>ୀ</u>		Ó
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Row A9: JAVANESE DRAFT

hex	Name	hex	Name
80 81 82 83 84 85 86 87 88 88 88 88 88 89 91 92 93 94 95 97 89 99 99 99 99 99 99 99 99 99 99 99 99	JAVANESE SIGN PANYANGGA (ardhacandra) JAVANESE SIGN CECAK (arusvara) JAVANESE SIGN LAYAR (repha) JAVANESE SIGN LAYAR (repha) JAVANESE SIGN WIGNYAN (visarga) JAVANESE SIGN WIGNYAN (visarga) JAVANESE LETTER IR JAVANESE LETTER IR JAVANESE LETTER II JAVANESE LETTER II JAVANESE LETTER II JAVANESE LETTER PA CEREK (vocalic r) JAVANESE LETTER IV JAVANESE LETTER ROA LELET (vocalic II) JAVANESE LETTER ROA LELET (vocalic II) JAVANESE LETTER ROA LELET RASWADI (vocalic III) JAVANESE LETTER ROA LELET RASWADI (vocalic III) JAVANESE LETTER AII JAVANESE LETTER AII JAVANESE LETTER AII JAVANESE LETTER KA SASAK (qa) JAVANESE LETTER KA JAVANESE LETTER KA JAVANESE LETTER KA JAVANESE LETTER KA JAVANESE LETTER GA MURDA (gha) JAVANESE LETTER TA JAVANESE LETTER NGA JAVANESE LETTER JA JAVANESE LETTER DA JAVANESE LETTER D	D9 DA DB DC DD DE DF	JAVANESE DIGIT NINE (This position shall not be used) (JAVANESE PADA TIRTA TUMETES JAVANESE PADA ISEN-ISEN

A. Administrative

1. Title

Proposal for encoding the Javanese script in the BMP of the UCS2.

Requester's name

Indonesia, Ireland, and UC Berkeley Script Encoding Initiative (Universal Scripts Project)

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

National Body and Liaison contribution.

4. Submission date

2008-03-06

- 5. Requester's reference (if applicable)
- 6. Choose one of the following:

6a. This is a complete proposal

Yes.

6b. More information will be provided later

No.

B. Technical – General

1. Choose one of the following:

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

Yes.

1b. Proposed name of script

Javanese.

1c. The proposal is for addition of character(s) to an existing block

No.

1d. Name of the existing block

2. Number of characters in proposal

91.

3. Proposed category (A-Contemporary; B.1-Specialized (small collection); B.2-Specialized (large collection); C-Major extinct; D-Attested extinct; E-Minor extinct; F-Archaic Hieroglyphic or Ideographic; G-Obscure or questionable usage symbols)

Category A.

4a. Is a repertoire including character names provided?

Yes

4b. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?

Yes.

4c. Are the character shapes attached in a legible form suitable for review?

Yes

5a. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard? **Jason Glavy and Michael Everson.**

5b. If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used:

Michael Everson, Fontographer.

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. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at http://www.unicode.org for such information on other scripts. Also see Unicode Character Database http://www.unicode.org/Public/UNIDATA/UnicodeCharacterDatabase.html and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

See above.

C. Technical – Justification

1. Has this proposal for addition of character(s) been submitted before? If YES, explain.

Yes, N3292 was a preliminary proposal. Jeroen Hellingman made proposals for Javanese dated 1993-06-10 and 1998-03-10; Michael Everson made a code table available at http://www.evertype.com/informal.html on 2005-02-02.

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?

From the Yayasan Ajisaka:

Hadiwaratama (ITB Javanese & Sundanese Script expert), Ki Demang Sakawaten (Javanese Script ICT Programmer), Bagiono Djokosumbogo (Planning and International Cooperation Bureau Department of National Education), Sutadi Purnadipura (PEPADI - Indonesian Association for Puppet Play Master; Chairman), Donny Harimurti (NGO Bali Galang; Founder).

From the Komite Basa Jawi:

Djoko Santoso (Javanese Language Committee; Chairman), Dwijahadipura (Javanese Language Committee), Partodipuro (Javanese Language Committee), Purwatmodipuro (Javanese Language Committee), RM. Agus Darmodjo (Javanese Language Committee), Sudiyatmono (PEPADI - Indonesian Association for Puppet Play Master; Javanese Literature Expert and Writer), Sunarno (Javanese Language Committee), Suryono (Javanese Language Committee), Wilapadipuro (Javanese Language Committee), Wirasta Reksadipura (Javanese Language Committee; Senior Advisor)

From the Preparatory Committee:

Sardi (Vocational Education Development Centre for Arts and Craft; Director), Ki Sondong Mandali (Yayasan Sekar Jagad).

From the meeting in Surakarta, held at Balai Kota, City Hall of the Mayor of Surakarta City, Central Java Province, 2007-09-05:

Agus Dono (Office of Tourism and Culture), Alfiady H. (State University of Yogyakarta; Lecturer), Anggarini (Secondary School Teacher), B. Luriyanto (Primary School Teacher), Bambang Suhendro (Conservatory School Student), Bambang Sulanjari (Teacher's College; Lecturer), Bani Sudardi (State University of Surakarta; Professor), Bb. Ikhwanto (Uninet; Lecturer), Budhi Muhanto (PEPADI - Indonesian Association for Puppet Play Master; Vice Chairman), Drs. Rianto. SH. (Government Representative of East Java), FX. Ibnu Budhi (Office of Tourism and Culture; Linguist), Giyarni (Primary School Teacher), Hartiningsih (Secondary School Teacher - Kediri), Hastin (NGO Swagatra; Treasurer), Imam Sutardjo (State University of Surakarta; Lecturer), Irsan HG (Office of Education and Culture), Kasmadi (Conservatory School Teacher), KRH. Darmodipuro (Radya Pustaka Royal Museum of Surakarta (RMS); Director), Langgeng (Conservatory School Teacher), Margono (Junior Secondary School; Public Relations), Mujiyono (Secondary School Teacher), Muzizah (National Language Center; Philologist), Rohanah (Mayor's Office; Head of Administration), Santadipura (Javanese Bangun Tuwuh Magazine; Chief Editor), Seta (Secondary School Teacher - Kediri), Slamet Ishadi (Senior Secondary High School Teacher), Sri Iriana (Cultural Office), Suci Yulianti MM. (Permadani (a cultural NGO)), Suharsini PW (NGO Swagatra; Treasurer), Sukarman (State University of Surabaya; Lecturer), Sulis D. (Office of Tourism and Culture), Supanta (Uninet; Lecturer), Supriyanto Waluyo (Mangkunegaran Palace), Surana (Faculty of Literature and Culture; Lecturer), Suroto (Office of Traffic and Transportion; Section Head), Susila Adi (Office of National Education Central Java Provincial Government), Suwondo (Office of Social Welfare), Waliyono (Office of Youth and Sport; Linguist), Widada (Language Centre of Semarang; Chairman), Winarno Kusumo (The Palace of Surakarta; Vice Chairman).

From the meeting in Yogyakarta, held at Sonobudaya Museum, Yogyakarta, 2007-09-06:

Affendy Widayat (Yogyakarta State University; Lecturer), Dhiyan Prastiyono (Faculty of Culture - Gajahmada University; Lecturer), Dulkaeni (Sasmita Magazine), Eni Lestari R (Sonobudoyo Museum), Ery S (Sonobudoyo Museum), Haryana HW (Gajah Mada University; Lecturer), Kartiman (Vocational Education Development Centre for Arts and Crafts; Lecturer), Kirdiono (Sonobudoyo Museum), Kusharyanti (Observer), Manu J.W. (Gajah Mada University), Martono (Sonobudoyo Museum), Mudiyono (Sonobudoyo Museum), Pardiyono (Sonobudoyo Museum), Slamet Riyadi (Language Centre of Yogyakarta; Lecturer), Sri Pratiwi (Sonobudoyo Museum), Subagyo (Observer), Sugeng (Junior Secondary School Teacher), Suhardjendra (NGO Bebana; Teacher), Sulastri (Senior Secondary High School Teacher), Sumadji (Culture Park), Sumardi (Gajah Mada University; Lecturer), Sumarwantini (Senior Secondary High School Teacher), Sunardi S (Yogyakarta State University; Lecturer), Tatang (Sonobudoyo Museum), Tirto Suwondo (Language Centre of Yogyakarta; Teacher), Tugini Triharyati (Office of National Education), Warih (Secondary School Teacher), Winarso WS. (Office of Tourism and Cultural Affairs), Yudha Atmaka (Observer), Yuni Istiyani (Observer).

2c. If YES, available relevant documents

Attendance sheets attached.

3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?

Javanese is used on the island of Java in Indonesia.

4a. The context of use for the proposed characters (type of use; common or rare)

Used to write the Javanese language. Latin is also used.

4b. Reference

5a. Are the proposed characters in current use by the user community?

Yes.

5b. If YES, where?

In Java.

6a. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?

6b. If YES, is a rationale provided?

Yes.

6c. If YES, reference

Contemporary use and accordance with the Roadmap.

7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?

Yes.

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?

Yes.

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

Ves

10c. If YES, reference

See discussion of PADA PANGRANGKEP and of Javanese digits above.

11a. Does the proposal include use of combining characters and/or use of composite sequences (see clauses 4.12 and 4.14 in ISO/IEC 10646-1: 2000)?

Yes.

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

Nο

11c. If YES, reference

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

No.

11e. If YES, reference

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

Nο

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?

DAFTAR HADIR

DALAM RANGKA KUNJUNGAN TIM REGISTRASI

UNICODING AKSARA JAWA

SURAKARTA, SEPTEMBER 2007

Lembar:

				Lembar:
NO.	NAMA	INSTANSI	JABATAN	T. TANGAN
01.	Suharman	Unesa/Intin	Dosen	01.
02.	Mujiono	Sup I slahun	g bury	92.UYS
03.	MMB. Anggaini	SMPHIO Sta.	Gury.	03.
04.	Bani Subardi	TSSR-UNS	Gulubesar	04
05.	Donny Harimurti	Bali	Budaywan	05. 7CM
06.	Mujizah	Pusar Bhs.	Peneliti	06.
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14.	Michael Evesson	Evertype	Alphabetician	MARINE
15.	Baziono Djokosumbog	Biro PICL'N Depolituras	stat Senior	15.
16.	Punwalmadi jour	Komite is	Denon Pako	Warus
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			¹ Panit	tia Pelaksana:

DAFTAR HADIR

DALAM RANGKA KUNJUNGAN TIM REGISTRASI

UNICODING AKSARA JAWA

SURAKARTA, SEPTEMBER 2007

Lembar: ____

NO.	NAMA	INSTANSI	JABATAN	T. TANGAN
01.	Margono	SMPH12 Ska	Humas	Ol sur
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09.	KRH. Damody	mo Maser		09.
10.	IMAM SUTABOYS	nnZ	boka	10.
11.	Welapadepur	KB/	Bell	11.
12.	Lantson6	SM		12.
13.	Suci Yulignti M	n permadani	4	13. Sug
14.	sambling Julyeray	Smk1	Who Links	
15.	Drs. Reant, on	Pernsorop Julia.	Stal	15.
16.	Fx. Chru Bush	Mas Reb Pop 8	y Nooishs	16.12
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18.	R.M. Agns Donnog	Krings por		/ 18.
19.	111044	Sowpor		19.
20.	Hari) Hom	KR		20.

Panitia Pelaksana:

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DAFTAR HADIR DALAM RANGKA KUNJUNGAN TIM REGISTRASI UNICODING AKSARA JAWA

SURAKARTA, SEPTEMBER 2007

Lembar: T. TANGAN **INSTANSI JABATAN** NAMA NO. Mes 01. Solopas FM Aveilia 02. PURO M. N Erlufin DRIVITAUTO WALVUD 03. 03. SMP MA KEDIRI tiningsih GURU 04. - Polo Solo 05 05. 05. low an 06. BIR SRI IRIAMA 07. 07. SMAW ? 08. Komite 09. Nom. Basa Ju .-10. 10. 11. < 11. SINDO 12. 13. 13. 14. Ska 15. =BS-Unesa Dosen 16. 17. Eur gohn 18. Swadoton Sekr. 11 WZTZZ MITZA 19. enlot. & 20.

28

Panitia Pelaksana:

SKPD: DINAS KEBUDAYAAN PROVINSI DAERAH ISTIMEWA YOGYAKARTA

DAFTAR HADIR SIDANG

Hari, Tanggal :

J a m

Tempat

Acara .

No.	N a m a	Instansi	Gol	Tanda Tangan	
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Yogyakarta,

Mengetahui dan Menyetujui : Pengguna Anggaran/Kuasa Pengguna Anggaran

Bendahara Pengeluaran

SKPD: DINAS KEBUDAYAAN PROVINSI DAERAH ISTIMEWA YOGYAKARTA

DAFTAR HADIR SIDANG

Hari, Tanggal

Jam:

Tempat

Acara :

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No.	N a m a	Instansi	Gol	Tanda Tangan	
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4	Tirto Suwouds	Bolos Bohan	IK P	P	4 7 6
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16	Michael Everson	(RUANDIA			16
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18	Suzaini	SMH.WIYK		(9.	18
_19	Subagyo			19	
20	MARRONO.	Museum Neg. Sonowdoyo		0	20 .
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Yogyakarta,

Mengetahui dan Menyetujui : Pengguna Anggaran/Kuasa Pengguna Anggaran

Bendahara Pengeluaran