Emoji and Symbol Additions - Religious Symbols and Structures (revision 4)

To:	UTC
Date:	1 November 2014
From:	Shervin Afshar (HighTech Passport, Ltd.), Roozbeh Pournader (Google Inc.)
Live Doc:	http://goo.gl/pz5a00

As a follow-up to previously submitted documents to UTC, L2/14-172¹ and L2/14-174R², this document proposes a set of eight additional characters representing religious symbols and structures for incorporation into Unicode.

Contents

Contents Current State Objective and Selection Criteria Major Belief Systems According to Statistics Encoding Models for Symbols for Religious Structures Proposed Symbols Other Symbols Considered Discussion Character Properties Appendix 1: Current Religious Symbols in Unicode Appendix 2: Common Religious Map Symbols Bibliography

Current State

There are numerous religious symbols already incorporated into Unicode. Among those some may qualify as emoji. See the chart in <u>Appendix 1</u>. Symbols for church (U+26EA) and Shinto

¹ Edberg, and Davis. "Proposed enhancements for emoji characters: background".

² Edberg, and Davis. "Emoji Additions".

shrine (<u>U+26E9</u>) already exist in Unicode and have emoji usage.

Objective and Selection Criteria

The objective has been to have symbols and structures of major belief systems worldwide represented with an emphasis on filling up existing gaps in the encoded symbol repertoire (e.g. to present Abrahamic religions, or for those major belief systems with specific, strong focus on places of worship as centers of community³). The other criteria have been an existing or potential common usage among the user community.



Major Belief Systems According to Statistics

Statistics reported are percentages of global population:

- Pew Research Center⁵ (2012) statistics are: Christianity (31.5%), Islam (23.2%), Unaffiliated (16.3%), Hinduism (15.0%), Buddhism (7.1%), Folk religions (5.9%), Other (0.8%), Judaism (0.2%).
- CIA World Factbook⁶ (2010) statistics are: Christianity (33.39%), Islam (22.74%), Hinduism (13.8%), Buddhism (6.77%), Sikhism (0.35%), Judaism (0.22%), Baha'i (0.11%), other religions (10.95%), non-religious (9.66%), atheism (2.01%)
- Adherents.com⁷ (2005) statistics are: Christianity (33%), Islam (21%), non-religious (16%), Hinduism (14%), Buddhism (6%), Chinese traditional (6%), primal-indigenous (6%), Sikhism (0.36%), Judaism (0.22%).

Encoding Models for Symbols for Religious Structures

³ De Botton. "Religion for Atheists: A Non-believer's Guide to the Uses of Religion", pp. 50-51.

⁴ Codepoints.net. Twitter conversation.

⁵ Pew Research Center. "The Global Religious Landscape."

⁶ The World Factbook.

⁷ Adherents.com. "Major Religions of the World Ranked by Number of Adherents".

The proposed religious symbols (X600, X603, X605, X606, and X607) should be encoded separately and individually. For generic religious structures symbols (X601 and X602), two distinctive models can be considered:

- a. **Individual symbols:** In the style of existing emoji for buildings and other structures, an individual, distinct symbol would be assigned to each class of religious structures. Implications of using this model are:
 - i. Filling the existing gaps in the current repertoire;
 - ii. Although this model is consistent with existing emoji for buildings and structures, but adding individual new symbols for each structure proves to be practical only for major belief systems in practice worldwide;
 - iii. Providing a unique representative visual form for each of these structures to address the existing variance of architectural style is a challenging task; e.g. a symbol for a mosque which uses Star and Crescent does not necessarily depict a mosque in a Shia country like Iran (where the symbol may remind people of the Turkish/Ottoman or Pakistani flags instead).

23 for a hindu temple, 28 for a buddhist temple⁹, 28 for a synagogue, and 24 for a northodox church. Implications of using this model are:

- i. This method makes use of numerous existing religious symbols therefore limits the number of symbols needed to be encoded and in the meantime extends the coverage of the solution beyond major belief systems;
- ii. New additions are simple due to nature and usage of religious symbols and is limited to encoding the symbol in question;
- iii. Some religious structures like Bodh Gaya and Mahabodhi Temple, Kaaba, Dome of the Rock, or Western Wall have specific significance and using a symbol sequence with the generic symbol for place of worship does not communicate that significance.

Proposed Symbols

This is a list of religious and religious structure symbols to be considered for incorporation in Unicode. Symbols for Chinese Folk Religion (Shenism) are proposed in a separate document¹⁰. X600 to X603 previously mentioned in a document¹¹ to the UTC.

⁸ Mendelson. "Emoji Major No. 6: A Buddhist Education."

⁹ <u>http://vesakinottawa.files.wordpress.com/2013/12/buddhist-road-sign-in-ottawa-20113.jpg?w=300</u>

¹⁰ Afshar, and Pournader. "Six New Symbols for Chinese Folk Religions".

¹¹ Edberg, and Davis. "Emoji Additions".

Code	Image (illus)	Character name/description	Notes
1F4FF	and a second and a	PRAYER BEADS	Used by members of various religious traditions; Rosary Beads was previously proposed by iDiversicons ¹² .
1F54B		КААВА	Fleshing out a set of symbols for religious structures; Also used as map, directional ¹³ , and traffic symbol ¹⁴ .
1F54C		MOSQUE	Fleshing out a set of symbols for religious structures; The number of minarets depends on the architectural school.
1F54D		SYNAGOGUE	Fleshing out a set of symbols for religious structures.
1F54E	Ŷ	MENORAH WITH NINE BRANCHES	Business Insider list ¹⁵ ; holiday symbol, Hanukiah.
1F6D0	Ż	PLACE OF WORSHIP	Generic symbol for place of worship; original square-shaped symbol created for Open Street Maps Mapnik ¹⁶ denoting unknown place of worship; used in various related projects ^{17 18} ; public domain.

¹² Ibid.

¹² Ibid.
¹³ Benander. "Which way is Mecca?".
¹⁴ <u>http://susieofarabia.files.wordpress.com/2008/05/100_1977.jpg</u>
¹⁵ Moss, Nudelman. "19 Emoji That Really Should Exist".
¹⁶ SJJB. "SVG Map Icons".
¹⁷ Cyclestreets.net. "Plan a cycle journey: Worship, Place of".
¹⁸ Wheelmap.org. "Введенская церковь".

1F900			Generic symbol representing Five Dhyani Buddhas ¹⁹ (Akshobhya shown here); Common as a general symbol for buddhism and buddhist temples ²⁰ ; in use as map symbol denoting buddhist temples ²¹ ; also previously proposed by iDiversicons ²² .
-------	--	--	---

Discussion

Although the proposed symbols can be classified as loosely notational and non-compatibility, but considering the Unicode Consortium criteria and guidelines for proposing new symbols^{23 24}, the authors find these characters to have a compelling case to be incorporated into the Unicode Standard:

- These symbols complement a set of existing religious symbols and emoji for religious structures. Specifically about the latter case, the encoding model using symbol sequences mentioned in section <u>Encoding Models for Symbols for Religious Structures</u> provides a solution which addresses potential future needs in a scalable manner;
- Similar to all other emoji, these symbols:
 - have common usage and wide community of users across various platforms which already implemented current Unicode emoji to ensure a safe interchange;
 - have the potential to be regularly used in running text, but their specificity to messages expressing sentiments about major human belief systems makes their case of use a more compelling one "to expand the possibilities of what might be expressed"²⁵ and "opening a gateway to a non-discursive language of new possibility"²⁶;
 - have well-defined semantics which is non-ignorable in processing including searching and indexing;

Character Properties

1F4FF; PRAYER BEADS; S0; 0; ON; ;; ;; N; ;; ;; 1F54B; KAABA; S0; 0; ON; ;; ;; N; ;; ;; 1F54C; MOSQUE; S0; 0; ON; ;; ;; N; ;; ;;

¹⁹ A View on Buddhism. "Symbolism of the five Dhyani Buddhas".

²⁰ http://media.jrn.com/images/b99305078z.1_20140704185948_000_gse6troi.2-0.jpg

²¹ International Travel Maps. "Himalaya, the roof of the world".

²² Afshar, and Parrott. "Report on Diversity Emoji Use in iDiversicons and Proposal to Add New Emoji from iDiversicons Collection to Unicode". p. 5.

²³ Unicode Consortium. "Submitting Character Proposals".

²⁴ Freytag. "Towards criteria for encoding symbols".

²⁵ Lebduska. "Emoji, Emoji, What for Art Thou?"

 $^{^{26}}$ lbid.

```
1F54D;SYNAGOGUE;So;0;ON;;;;;N;;;;
1F54E;MENORAH WITH NINE BRANCHES;So;0;ON;;;;;N;;;;
1F6D0;PLACE OF WORSHIP;So;0;ON;;;;;N;;;;
1F900;DHYANI BUDDHA;So;0;ON;;;;;N;;;;
```

Other Symbols Considered

Symbols in the following table were considered by the authors, but at this point, there is not yet a compelling case for incorporating them into the Unicode standard.

Code	lmage (illus)	Character name/description	Notes
X605		SYMBOL FOR ATHEISM	Generic atheist symbol, result of a 2007 Atheist Alliance International contest ²⁷ ; public domain.
X608	Y	MENORAH WITH SEVEN BRANCHES	Biblical lamp and a symbol for Judaism. Also used as a map symbol for synagogue.
X609		WESTERN WALL	Specific significance and usage as map symbol.
X610		DOME OF THE ROCK	Specific significance and usage as map symbol.
X611		MAHABODHI TEMPLE	Specific significance.

²⁷ PZMinion. "Atheism Symbol".

X612		SYMBOL FOR HUMANISM	Trademark by the British Humanist Association (mostly to prevent abuse).
------	--	------------------------	---

Appendix 1: Current Religious Symbols in Unicode

Code	Name	Religion
271D	LATIN CROSS	Christianity
271E	SHADOWED LATIN CROSS	Christianity
271F	OUTLINED LATIN CROSS	Christianity
2720	MALTESE CROSS	Christianity
2626	ORTHODOX CROSS	Christianity
2627	CHI RHO	Christianity
2628	CROSS OF LORRAINE	Christianity
2629	CROSS OF JERUSALEM	Christianity
2670	WEST SYRIAC CROSS	Christianity
2671	EAST SYRIAC CROSS	Christianity
2719	OUTLINED GREEK CROSS	Christianity
271A	HEAVY GREEK CROSS	Christianity
26EA	CHURCH	Christianity
1F540	CIRCLED CROSS POMMEE	Christianity
1F541	CROSS POMMEE WITH HALF-CIRCLE BELOW	Christianity
1F542	CROSS POMMEE	Christianity
1F546	WHITE LATIN CROSS	Christianity
1F547	HEAVY LATIN CORSS	Christianity
1F548	CELTIC CROSS	Christianity
1F7A1	THIN GREEK CROSS	Christianity
1F7A2	LIGHT GREEK CROSS	Christianity
1F7A3	MEDIUM GREEK CROSS	Christianity
1F7A4	BOLD GREEK CROSS	Christianity
1F7A5	VERY BOLD GREEK CROSS	Christianity
1F7A6	VERY HEAVY GREEK CROSS	Christianity

1F7A7	EXTREMELY HEAVY GREEK CROSS	Christianity
2613	SALTIRE	Christianity
26DD	SQUARED SALTIRE	Christianity
2B59	HEAVY CIRCLED SALTIRE	Christianity
1F7A8	THIN SALTIRE	Christianity
1F7A9	LIGHT SALTIRE	Christianity
1F7AA	MEDIUM SALTIRE	Christianity
1F7AB	BOLD SALTIRE	Christianity
1F7AC	HEAVY SALTIRE	Christianity
1F7AD	VERY HEAVY SALTIRE	Christianity
1F7AE	EXTREMELY HEAVY SALTIRE	Christianity
262A	STAR AND CRESCENT	Islam
262B	FARSI SYMBOL ²⁸	Islam
721	STAR OF DAVID	Judaism
950	DEVANAGARI OM	Hinduism
0AD0	GUJARATI OM	Hinduism
0BD0	TAMIL OM	Hinduism
0F00	TIBETAN SYLLABLE OM	Hinduism
1F549	OM SYMBOL	Hinduism
262C	ADI SHAKTI	Sikhism
2638	WHEEL OF DHARMA	Buddhism
0FD5	RIGHT-FACING SVASTI SIGN	Buddhism
0FD6	LEFT-FACING SVASTI SIGN	Buddhism
0FD7	RIGHT-FACING SVASTI SIGN WITH DOTS	Buddhism
0FD8	LEFT-FACING SVASTI SIGN WITH DOTS	Buddhism
262F	YIN YANG	Taoism
268A	MONOGRAM FOR YANG	Taoism
268B	MONOGRAM FOR YIN	Taoism
26E9	SHINTO SHRINE	Shinto
26E4	PENTAGRAM	Wicca/Occult
26E7	INVERTED PENTAGRAM	Wicca/Occult

Appendix 2: Common Religious Map Symbols

²⁸ Wikipedia contributors. "Emblem of Iran".

In order to provide some background data for defining the relationship (or lack thereof) between proposed symbols in this document and map symbols, various maps published in different countries were surveyed and the religious map symbols were extracted and annotated for reference.

Bibliography

- A View on Buddhism. "Symbolism of the five Dhyani Buddhas." Last updated 11 October 2011. retrieved on 1 October 2014. <u>http://viewonbuddhism.org/5_dhyani_buddhas.html</u>
- Adherents.com. "Major Religions of the World Ranked by Number of Adherents." 2005. retrieved on 1 October 2014.
 http://www.adherents.com/Religions_By_Adherents.html
- Afshar, Shervin, and Parrott, Katrina. "Report on Diversity Emoji Use in iDiversicons and Proposal to Add New Emoji from iDiversicons Collection to Unicode." Proposal to Unicode Technical Committee (L2/14-154R). 2 August 2014. retrieved on 1 October 2014. http://www.unicode.org/L2/L2014/14154r-idiversicon-emoji-rept.pdf
- Afshar, Shervin, and Pournader, Roozbeh. "Six New Symbols for Chinese Folk Religions." Proposal to Unicode Technical
 Committee, 23 October 2014. <u>http://goo.gl/1EcMVk</u>
- Benander, Ruth. "Which way is Mecca?." *Distant Chimes* personal blog. 22 June 2010. retrieved on 1 October 2014.
 <u>http://distantchimes.blogspot.com/2010/06/which-way-is-mecca.html</u>
- Central Intelligence Agency. "World." *The World Factbook*. 2010. retrieved on 1 October 2014. <u>https://www.cia.gov/library/publications/the-world-factbook/geos/xx.html</u>
- Codepoints.net. Twitter conversation between @mosq and @CodepointNet. 26 March 2014. retrieved on 1 October 2014.
 https://twitter.com/CodepointsNet/status/448780584094273536
- Cyclestreets.net. "Plan a cycle journey: Worship, Place of." retrieved on 1 October 2014. http://cycle.st/pois/worship
- De Botton, Alain. "Religion for Atheists: A Non-believer's Guide to the Uses of Religion". Knopf Doubleday Publishing Group, 2012, ISBN 9780307907103.
- Edberg, Peter, and Davis, Mark. "Emoji Additions." Proposal to Unicode Technical Committee (L2/14-174R). 27 August 2014. retrieved on 1 October 2014. http://www.unicode.org/L2/L2014/14174r-emoji-additions.pdf
- Edberg, Peter, and Davis, Mark. "Proposed enhancements for emoji characters: background." Proposal to Unicode Technical Committee (L2/14/172R). 29 August 2014. retrieved on 1 October 2014. http://www.unicode.org/L2/L2014/14172r-emoji-enhancements.pdf
- Freytag, Asmus. "Towards criteria for encoding symbols." Proposal to Unicode Technical Committee (L2/99-027). 27 January 1999. Retrieved on 1 October 2014. <u>http://www.unicode.org/pending/symbol-quidelines.html</u>
- International Travel Maps. "Himalaya, the roof of the world." 2009. Sample image available at <u>http://cdn8.mapscompany.com/wp-content/uploads/2014/03/map-himalayas-9781553415480-5.jpg</u>
- Lebduska, Lisa. "Emoji, Emoji, What for Art Thou?" in *Harlot* No. 12 (2014). Retrieved on 19 October 2014. <u>http://harlotofthearts.org/index.php/harlot/article/view/186/157</u>
- Mendelson, Zoe. "Emoji Major No. 6: A Buddhist Education." *Fast Company*, 18 September 2013. retrieved on 1 October 2014. <u>http://www.fastcodesign.com/3017632/emoji-major-no-6-a-buddhist-education</u>
- Moss, Caroline, and Nudelman, Mike. "19 Emoji That Really Should Exist.", *Business Insider*, 29 January 2014. retrieved on 1 October 2014. <u>http://www.businessinsider.com/19-emoji-you-wish-existed-2014-1</u>
- Pew Research Center. "The Global Religious Landscape." *The Pew Forum on Religion & Public Life*. 18 December 2012. retrieved on 1 October 2014. <u>http://www.pewforum.org/2012/12/18/global-religious-landscape-exec/</u>
- PZMinion. "Atheism Symbol". Pharyngula blog on Science Blogs. 11 August 2008. retrieved on 1 October 2014. <u>http://scienceblogs.com/pharyngula/2008/08/11/atheism-symbol/</u>
- SJJB. "SVG Map Icons." retrieved on 1 October 2014. <u>http://www.sijb.co.uk/mapicons/</u>
- Unicode Consortium. "Submitting Character Proposals." Retrieved on 1 October 2014. <u>http://www.unicode.org/pending/proposals.html</u>

- Wheelmap.org. "Введенская церковь". retrieved on 1 October 2014. <u>http://wheelmap.org/en/nodes/356376703</u>
- Wikipedia contributors. "Emblem of Iran." Wikipedia, The Free Encyclopedia, retrieved on on 17 October 2014.
 http://en.wikipedia.org/w/index.php?title=Emblem_of_Iran&oldid=626146207

Emoji and Symbol Additions - Religious Symbols and Structures Appendix 2: Common Religious Map Symbols

Live spreadsheet: http://goo.gl/qIEaxa

	Description	Religon	Trace	Original	Publisher	Map of Country/Region	Notes
				HA			
1	Masoleoum, tomb, shrine	Muslim			Gizi	AF, SY (Halab)	
				U Tumin			
2	Temple	Sikh?			Gizi	IN (Jammu and Kashmir)	
3	Temple	Buddhist		Thasa mik	Gizi	IN (Jammu and Kashmir), IN (Himalayas)	
	Tamala	Duddhick		Line			
	Temple	Buddhist		Gafi) Sque -		IN (Jammu and Kashmir)	
5	Mosque	Muslim			Gizi	AF, SY	
6	Temple	Buddhist		स् से क्व से से से क्वे से Myashinyi संस्था Fompie Complex रिक्क से से से से क्वे से क्वे से क्वे	ITM	JP (Kyoto)	Swastikas.
7	, Temple	Shinto		Tempk	ITM	CN (Beijing)	

		*			
8 Western Wall	Jewish		Israel Ministry of Tourism	IL (Jerusalem)	Also, traffic sign usage.
9 Dome of the Rock	Muslim		Israel Ministry of Tourism	IL (Jerusalem)	
10 Synagogue	Jewish	Ψ	Israel Ministry of Tourism	IL (Jerusalem)	
11 Church	Christian		Israel Ministry of Tourism	IL (Haifa)	
12 Shrine	Bahai	Baha'i Archives	Israel Ministry of Tourism	IL (Haifa)	
13 Mosque	Muslim	W FEISAL	Israel Ministry of Tourism	IL (Haifa)	
14 Mikveh	Jewish		Israel Ministry of Tourism	IL (Haifa)	http://en.wikipedia.org/wiki/Mikveh
15 Mosque	Muslim	Grand Grand Maque Martin Martin		LK	Crescent and star
	musiiiii	Malaysia Baptist Church			
16 Church	Christian			LK	

		Siriwardana Aramaya Aramaya Aramaya Aramaya Aramaya			
		Lana Lana			
17 Temple	Sikh			LK	
		ukana uddha aplica			
		oplica & Sin			
18 Temple	Buddhist			LK	
		Abne			
		152			Allah in Kufi-Bannaiee
19 Mosque	Muslim		Gitashenasi	AF (Kabul), IR (Tehran)	(http://de.wikipedia.org/wiki/Bannai)
		مسجد_تكيه اللا			
					Allah in Kufi-Bannaiee
20 Tekyeh	Muslim (Shia)		Gitashenasi	IR (Tehran)	(http://de.wikipedia.org/wiki/Bannai)
21 Wayside shrine	Christian		Gizi	GR (Kalymnos)	
		Ach			
		Agt			
22 Monestary	Christian		Gizi	GR (Kalymnos)	
		WW A			
		M.			
23 Monastery	Christian		Gizi	GR (Kalymnos)	
		ARI			
		Ayu			
24 Church	Christian		Gizi	GR (Kalymnos)	
		to an			
		ter all			
25 Church	Christian		Gizi	GR (Kalymnos)	
	Christian		UIZI		

26 Wayside shrine	Christian	t t	AT (Innsbruck)	
		X Tanan		
27 Graveyard	Christian		AT (Innsbruck)	
28 Church	Christian	V-	AT (Innsbruck)	
29 Monastery	Christian	rkloster 1	AT (Innsbruck)	
30 Tomb	Muslim	Tomi Shei	EG	
	Christian (Orth?)	t Manastic Sv. Bogg Islatisht		
31 Monastery		avë vo	ХК	
32 Mosque	Muslim		ХК	
33 Place of Worship	Bahai		OSM	http://wiki.openstreetmap.org/wiki/Map_Ico ns/Map_Icons_Standards
34 Place of Worship	Buddhist	*	OSM	

35 Place of Worship	Christian	OSM	
		3	
36 Place of Worship	Hindu	OSM	
37 Place of Worship	Muslim	OSM	
38 Place of Worship	Jain	OSM	
39 Place of Worship	Jewish	оsм	
40 Place of Worship	Shinto	OSM	
41 Place of Worship	Taoist	оѕм	
	Zoroastrian	OSM OSM	
42 Place of Worship	ZUIUdStrian		
43 Place of Worship	Generic/Unkno wn	OSM	https://github.com/twain47/Open-SVG-Map Icons

ISO/IEC JTC1/SC2/WG2

PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS

FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646²⁹

Please fill all the sections A, B and C below.

Please read Principles and Procedures Document (P & P) from

http://std.dkuug.dk/JTC1/SC2/WG2/docs/principles.html for guidelines and details before filling this form.

Please ensure you are using the latest Form from

http://std.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html.

See also <u>http://std.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html</u> for latest Roadmaps.

A. Administrative

- 1. Title: Emoji and Symbol Additions Religious Symbols and Structures
- 2. Requester's name: Shervin Afshar, Roozbeh Pournader
- 3. Requester type (Member body/Liaison/Individual contribution): Individual contribution
- 4. Submission date: 29 October 2014
- 5. Requester's reference (if applicable):
- 6. Choose one of the following:

This is a complete proposal:

(or) More information will be provided later:

B. Technical - General

1. Choose one of the following:

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

b. The proposal is for addition of character(s) to an existing block: ■ Name of the existing block: Miscellaneous Symbols And Pictographs, Transport And Map Symbols, Supplemental Symbols and Pictographs

2. Number of characters in proposal: Seven

3. Proposed category (select one from below - see section 2.2 of P&P document):

□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

4. Is a repertoire including character names provided? Yes

a. If YES, are the names in accordance with the "character naming guidelines" Yes

b. 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, ftp-site, etc.): Michael Everson, everson@evertype.com

6. References:

a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? N/A b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached? N/A

7. Special encoding issue

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)? No

²⁹ Form number: N4502-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01)

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 <u>http://www.unicode.org</u> for such information on other scripts. Also see UAX#44: <u>http://www.unicode.org/reports/tr44/</u> and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

C. Technical - Justification

- 1. Has this proposal for addition of character(s) been submitted before? No If YES explain
- Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)? No If YES, available relevant documents:
- 3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? Yes
 - Reference: See the bibliographical information provided in the document.
- 4. The context of use for the proposed characters type of use; common or rare) Reference: See the bibliographical information provided in the document.
- 5. Are the proposed characters in current use by the user community? Yes If YES, where? Reference: See the bibliographical information provided in the document.
- 6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP? No
 - If YES, is a rationale provided?
 - If Yes, reference:
- 7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)? No
- 8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence? No

If YES, is a rationale for its inclusion provided?

- If Yes, reference:
- 9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters? No
 If YES, is a rationale for its inclusion provided?
 - If Yes, reference:
- 10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to, or could be confused with, an existing character? No If YES, is a rationale for its inclusion provided? If Yes, reference:
- 11. Does the proposal include use of combining characters and/or use of composite sequences? If YES, is a rationale for such use provided? No
 - If Yes, reference:

Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided? If Yes, reference:

- 12. Does the proposal contain characters with any special properties such as control function or similar semantics? No
 - If YES, describe in detail (include attachment if necessary)
- 13. Does the proposal contain any Ideographic compatibility characters? No If YES, are the equivalent corresponding unified ideographic characters identified? If Yes, reference: