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

Doc Type: **Working Group Document**
Title: **Proposal to encode Portrait Symbols in the SMP of the UCS**
Source: **Michael Everson**
Status: **Individual Contribution**
Action: **For consideration by JTC1/SC2/WG2 and UTC**
Date: **2014-10-02**

1. Background. The advent of colour emoji first on Apple's iPhone and subsequently on other platforms brought with it an unanticipated controversy due to the glyphs used for a number of characters representing human beings. These characters were drawn with what can be described by a skin type classification devised in 1975 by Thomas Fitzpatrick as Skin Type I or Skin Type II, "pale white" or "white" in colour. Users in the United States, India, and other countries offered complaint in the press and on the internet that the glyphs chosen were not sufficiently diverse and did not represent users with other Skin Types. Internet petitions were organized, and many users contacted their suppliers to register their dissatisfaction. It became clear that the question of diversity needed to be addressed.

The question is how to address the problem, in terms of scope and in terms of a technical solution.

2. The UTC's proposal. At present the UTC proposes to recommend the genericization of existing characters with Skin Type I/II, making them neutrally yellow or grey or blue or something. I have seen no specific recommendation as to how this genericization might be accomplished, but since emoticons (smileys) are typically yellow one might expect a sort of "simpsonization" to make such characters yellow. Then the UTC proposes to add five "skin tone swatches" to represent Skin Type I/II (pale white/white), Skin Type III (cream white), Skin Type IV (moderate brown), Skin Type V (dark brown), Skin Type VI (deeply pigmented dark brown to black). The UTC uses other names for these in their proposal in ISO/IEC JTC1/SC2/WG2 N4599: light skin tone, medium light skin tone, medium skin tone, medium dark skin tone, and dark skin tone. (The Fitzpatrick scale is not really about colour but about how readily skin burns, though obviously there is a correlation due to melanin differences.)

In my view the option taken by the UTC goes too far in a number of areas. First, it is a novel set of ligating graphic characters designed to indicate skin colour. Of course such a set of colour swatches could be increased hugely. 8-bit colour? 16-bit colour? Users could demand more colours if they realized that this mechanism were productive. I have heard it suggested that these colours could be applied to the cake emoji (whose glyph is usually white) in order to make it render like a chocolate cake. This opens the door to a literally unending number of potential requests for coloured swatches or for official sequences which then implementors would have to draw and ship. And where will the requests come from?

Moreover, while "ligation" can of course be achieved by a font rule that says "when glyph *x* follows glyph *y*, draw glyph *z*". But the skin tone swatch solution leaves us with a set of base characters which then will be effectively wearing the digital version of white-face or brown-face or black-face makeup. While on a phone or pad device character entry might be restricted in terms of glyph pickers, in other environments, like ordinary e-mail, the invisible skin-tone characters could be backspace-deleted and this

would present to the user an unexpected glyph—or worse, a glyph which was not the one intended by the sender. Even if some software in the control of emoji implementors could delete both characters on backspace rather than just one at a time, there's no guarantee that all software would have that behaviour. This just isn't stable, and the explanations given by the UTC about "supported" behaviour and "fallback" behaviour just underscores the fact that this is pretty much a hack.

Other implementations could simply not resolve the characters correctly. It's possible to paste Apple colour emoji characters into Quark XPress, and the result is a black-and-white font fallback. The US flag appears as the sequence of U S , which is legible, at least, if not a representation of a flag. If a similar fallback happened for a brown police officer, for instance, then what the user would see would be a (white? yellow? blue?) police officer with a postage-stamp hatching pattern next to it. It is one thing to say that U S is a way of representing a flag, but at least it makes sense: it is legible or parseable. 👮░ does not make sense. (I used U+2591 in that example.) This is not "legible" or parsable. It is certainly not what a user would expect.

But really, essentially skin-tone is not a kind of notional diacritic, and merging a portrait symbol and a colour swatch to change the appearance of the former is not intuitive: it's a hack. It saves some code points, but code points aren't that rare. Users want to send a fair-skinned boy or an Indian policeman or an African-American woman or whatever. What happens when this turns up in an e-mail and an accidental backspace deletes the unseen (ligated) skin-tone character of a black woman emoji and she turns white or yellow or whatever?

I don't think this is good for data representation of emoji. It's a kind of pseudo-encoding. It's not inherently stable and it's going to cause implementors more grief. And there is a real danger to the Unicode Consortium's member companies: once it becomes understood that these skin tone swatch characters are applied to some sort of base character, there is a 100% likelihood that Al Jolson will be invoked, and this will *not* make the UTC or WG2 look good.

I think the UTC's proposed solution has the potential to cause more trouble for implementors (including criticism from end-users) than simply adding new characters to a new block. The only question in that case is which characters should be added to that block.

Now I have looked at L2/14-173R and what the UTC is proposing is a lot more than what users have complained about. I that document there are 167 characters which are potentially slated to be colourized is much too large—the set includes smileys and printer's fists and symbols intended to represent sports (rather than people). But an examination of the kinds of complaints, reviews, and petitions the user community has made shows that they've not been asking to colourize smileys or THUMBS UP SIGN or the VICTORY HAND or the WEIGHT LIFTER. They're concerned with just over a dozen faces.

There is a certain inconsistency in representation of some emoji from implementation to implementation; the UTC is working with its Technical Report № 51 to give guidance that will give a better cross-platform experience to users. That's very good work. If we look at the list given in the document at **http://www.unicode.org/reports/tr51/full-emoji-list.html** we find that almost all implementors have used generic yellow smileys for the smileys: there seems to be no real pressure to apply skin tone of any kind to these or to the sports characters, or to the characters referring to barbering and so on. The only really problematic characters—the ones for which a remedy is required—are the ones in that list at at № 64-77, and possibly 79-89 (though those should be genericized as they are more emoticons than emoji).

I believe the right thing to do is to add a set of colourized human emojis, taking the range of actual people representing people and not other activities—№ 64-72, 75, and 76 with the four additional skin tones (retaining Fitzpatrick Skin Types I/II for the existing characters because that's how they've *already*

been implemented, and because the general public has already identified these as representing those two Skin Types). For *all* the rest (including disembodied hands and arms) the recommendation should be to use generic representations, either yellow or greyscale or bluescale or outlined or whatever. Interestingly in the source character set many of those other characters are not shown with human skin colour.

3. This proposal. To respond simply and correctly to the user community all we need to is do what they have asked us. They have been concerned with the Portrait Symbols BOY, GIRL, MAN, WOMAN, POLICE OFFICER, WOMAN WITH BUNNY EARS, BRIDE WITH VEIL, PERSON WITH BLOND HAIR, OLDER MAN, OLDER WOMAN, BABY, CONSTRUCTION WORKER, and PRINCESS. (It is reasonable to consider other encoded characters and to consider filling gaps we can identify immediately.) We should accept the existing characters as having Skin Type I/II add four versions of these 13 characters, adding 52 characters to the standard. Along with adding these few characters we should make strong recommendations about making other characters generic (all of the body parts, sports, and other emoticons). This is the simplest and cheapest way of solving the real perceptual problem the user community had when the iPhone first revealed its emojis. That's really the only problem we have. The users are not happy with the Portrait Symbols. They have not asked for more, and the UTC's proposal goes too far trying to solve a problem which doesn't exist.

There's a big difference between 835 glyphs taking up space in a phone and its input methods and 52. And the UTC would need to make a real case that *every* one of the human being characters in the UCS really need to have non-generic skin. I don't believe that's wise or necessary. I don't think I've ever heard complaints about yellow smileys that I've heard of, not back in Yahoo Messenger or any of the other early messengers either.

A good and unassailable case has been made for adding skin colour diversity to the portrait pictures. Such a case has not been made for the rest of the characters in the UTC's list.

The right thing to do is to recommend that as many characters as possible be generic. I know that "race" is an issue in the some countries, but the proposal to be able to colourize "all the characters" takes political "correctness" to really unreasonable heights for the International Standard. Yes, some characters would benefit from the representation of skin tone. But wherever glyphs can be generic they *should* be. It seems to me that the UTC has gone way too far trying to be completist, when the right thing to do to correct the perceived problem is to tackle the portraits, and to genericize most of the rest of the characters on the list.

This is less expensive for implementors: supporting 50 additional glyphs is one thing, supporting 835 is quite another. They're expensive to draw, they take up a lot of space in the devices, and really go a lot further than user requirements appear to have requested. I've read http://www.ibtimes.com/unicode-unveils-250-new-emoji-gets-thumbs-down-diversity-1604038 and they're not talking about hundreds of glyphs. The petition at https://www.dosomething.org/petition/emojis asks for four faces. We should do more than that, but that's still nowhere near what UTC have proposed. The petitioner at http://www.change.org/p/apple-and-google-support-equality-make-diverse-emojis asks for faces.

Adding 52 glyphs (13 x 4) to a font is one thing. Adding 835 (167 x 5) is overkill, bloats the fonts, and opens the door for more controversy rather than less.

1. Unicode Character Properties.

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1F980;BOY WITH MEDIUM LIGHT SKIN TONE;So;0;ON;;;;;N;;;;;
1F981;GIRL WITH MEDIUM LIGHT SKIN TONE;So;0;ON;;;;;N;;;;;
1F982;MAN WITH MEDIUM LIGHT SKIN TONE;So;0;ON;;;;;N;;;;;
1F983;WOMAN WITH MEDIUM LIGHT SKIN TONE;So;0;ON;;;;;N;;;;;
1F984;POLICE OFFICER WITH MEDIUM LIGHT SKIN TONE;So;0;ON;;;;;N;;;;;
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1F985;WOMAN WITH MEDIUM LIGHT SKIN TONE AND BUNNY EARS;So;0;ON;;;;;N;;;;;
1F986;BRIDE WITH MEDIUM LIGHT SKIN TONE AND VEIL;So;0;ON;;;;;N;;;;;
1F987;PERSON WITH MEDIUM LIGHT SKIN TONE AND BLOND HAIR;So;0;ON;;;;;N;;;;;
1F988;OLDER MAN WITH MEDIUM LIGHT SKIN TONE;So;0;ON;;;;;N;;;;;
1F989;OLDER WOMAN WITH MEDIUM LIGHT SKIN TONE;So;0;ON;;;;;N;;;;;
1F98A;BABY WITH MEDIUM LIGHT SKIN TONE;So;0;ON;;;;;N;;;;;
1F98B;CONSTRUCTION WORKER WITH MEDIUM LIGHT SKIN TONE;So;0;ON;;;;;N;;;;;
1F98C;PRINCESS WITH MEDIUM LIGHT SKIN TONE;So;0;ON;;;;;N;;;;;
1F990;BOY WITH MEDIUM SKIN TONE;So;0;ON;;;;;N;;;;;
1F991;GIRL WITH MEDIUM SKIN TONE;So;0;ON;;;;;N;;;;;
1F992;MAN WITH MEDIUM SKIN TONE;So;0;ON;;;;;N;;;;;
1F993;WOMAN WITH MEDIUM SKIN TONE;So;0;ON;;;;;N;;;;;
1F994;POLICE OFFICER WITH MEDIUM SKIN TONE;So;0;ON;;;;;N;;;;;
1F995;WOMAN WITH MEDIUM SKIN TONE AND BUNNY EARS;So;0;ON;;;;;N;;;;;
1F996;BRIDE WITH MEDIUM SKIN TONE AND VEIL;So;0;ON;;;;;N;;;;;
1F997;PERSON WITH MEDIUM SKIN TONE AND BLOND HAIR;So;0;ON;;;;;N;;;;;
1F998;OLDER MAN WITH MEDIUM SKIN TONE;So;0;ON;;;;;N;;;;;
1F999;OLDER WOMAN WITH MEDIUM SKIN TONE;So;0;ON;;;;;N;;;;;
1F99A;BABY WITH MEDIUM SKIN TONE;So;0;ON;;;;;N;;;;;
1F99B;CONSTRUCTION WORKER WITH MEDIUM SKIN TONE;So;0;ON;;;;;N;;;;;
1F99C;PRINCESS WITH MEDIUM SKIN TONE;So;0;ON;;;;;N;;;;;
1F9A0;BOY WITH MEDIUM DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9A1;GIRL WITH MEDIUM DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9A2;MAN WITH MEDIUM DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9A3;WOMAN WITH MEDIUM DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9A4;POLICE OFFICER WITH MEDIUM DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9A5;WOMAN WITH MEDIUM DARK SKIN TONE AND BUNNY EARS;So;0;ON;;;;;N;;;;;
1F9A6;BRIDE WITH MEDIUM DARK SKIN TONE AND VEIL;So;0;ON;;;;;N;;;;;
1F9A7;PERSON WITH MEDIUM DARK SKIN TONE AND BLOND HAIR;So;0;ON;;;;;N;;;;;
1F9A8;OLDER MAN WITH MEDIUM DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9A9;OLDER WOMAN WITH MEDIUM DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9AA;BABY WITH MEDIUM DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9AB;CONSTRUCTION WORKER WITH MEDIUM DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9AC;PRINCESS WITH MEDIUM DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9B0;BOY WITH DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9B1;GIRL WITH DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9B2;MAN WITH DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9B3;WOMAN WITH DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9B4;POLICE OFFICER WITH DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9B5;WOMAN WITH DARK SKIN TONE AND BUNNY EARS;So;0;ON;;;;;N;;;;;
1F9B6;BRIDE WITH DARK SKIN TONE AND VEIL;So;0;ON;;;;;N;;;;;
1F9B7;PERSON WITH DARK SKIN TONE AND BLOND HAIR;So;0;ON;;;;;N;;;;;
1F9B8;OLDER MAN WITH DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9B9;OLDER WOMAN WITH DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9BA;BABY WITH DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9BB;CONSTRUCTION WORKER WITH DARK SKIN TONE;So;0;ON;;;;;N;;;;;
1F9BC;PRINCESS WITH DARK SKIN TONE;So;0;ON;;;;;N;;;;;
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	1F98	1F99	1F9A	1F9B
0	1F980	1F990	1F9A0	1F9B0
1	1F981	1F991	1F9A1	1F9B1
2	1F982	1F992	1F9A2	1F9B2
3	1F983	1F993	1F9A3	1F9B3
4	1F984	1F994	1F9A4	1F9B4
5	1F985	1F995	1F9A5	1F9B5
6	1F986	1F996	1F9A6	1F9B6
7	1F987	1F997	1F9A7	1F9B7
8	1F988	1F998	1F9A8	1F9B8
9	1F989	1F999	1F9A9	1F9B9
A	1F98A	1F99A	1F9AA	1F9BA
B	1F98B	1F99B	1F9AB	1F9BB
C	1F98C	1F99C	1F9AC	1F9BC
D				
E				
F				

Human beings with Fitzpatrick Skin Type I/II are encoded in the Miscellaneous Symbols and Pictographs block.

Human beings with Fitzpatrick Skin Type III

1F980	☺	BOY WITH MEDIUM LIGHT SKIN TONE
		→ 1F466 ☺ boy
1F981	☺	GIRL WITH MEDIUM LIGHT SKIN TONE
		→ 1F467 ☺ girl
1F982	☺	MAN WITH MEDIUM LIGHT SKIN TONE
		→ 1F468 ☺ man
1F983	☺	WOMAN WITH MEDIUM LIGHT SKIN TONE
		→ 1F469 ☺ woman
1F984	☺	POLICE OFFICER WITH MEDIUM LIGHT SKIN TONE
		→ 1F46E ☺ police officer
1F985	☺	WOMAN WITH MEDIUM LIGHT SKIN TONE AND BUNNY EARS
		→ 1F46F ☺ woman with bunny ears
1F986	☺	BRIDE WITH MEDIUM LIGHT SKIN TONE AND VEIL
		→ 1F470 ☺ bride with veil
1F987	☺	PERSON WITH MEDIUM LIGHT SKIN TONE AND BLOND HAIR
		→ 1F471 ☺ person with blond hair
1F988	☺	OLDER MAN WITH MEDIUM LIGHT SKIN TONE
		→ 1F474 ☺ older man
1F989	☺	OLDER WOMAN WITH MEDIUM LIGHT SKIN TONE
		→ 1F475 ☺ older woman
1F98A	☺	BABY WITH MEDIUM LIGHT SKIN TONE
		→ 1F476 ☺ baby
1F98B	☺	CONSTRUCTION WORKER WITH MEDIUM LIGHT SKIN TONE
		→ 1F477 ☺ construction worker
1F98C	☺	PRINCESS WITH MEDIUM LIGHT SKIN TONE
		→ 1F478 ☺ princess

Human beings with Fitzpatrick Skin Type IV

1F990	☺	BOY WITH MEDIUM SKIN TONE
1F991	☺	GIRL WITH MEDIUM SKIN TONE
1F992	☺	MAN WITH MEDIUM SKIN TONE
1F993	☺	WOMAN WITH MEDIUM SKIN TONE
1F994	☺	POLICE OFFICER WITH MEDIUM SKIN TONE
1F995	☺	WOMAN WITH MEDIUM SKIN TONE AND BUNNY EARS
1F996	☺	BRIDE WITH MEDIUM SKIN TONE AND VEIL
1F997	☺	PERSON WITH MEDIUM SKIN TONE AND BLOND HAIR
1F998	☺	OLDER MAN WITH MEDIUM SKIN TONE
1F999	☺	OLDER WOMAN WITH MEDIUM SKIN TONE
1F99A	☺	BABY WITH MEDIUM SKIN TONE
1F99B	☺	CONSTRUCTION WORKER WITH MEDIUM SKIN TONE
1F99C	☺	PRINCESS WITH MEDIUM SKIN TONE

Human beings with Fitzpatrick Skin Type V

1F9A0	☺	BOY WITH MEDIUM DARK SKIN TONE
1F9A1	☺	GIRL WITH MEDIUM DARK SKIN TONE
1F9A2	☺	MAN WITH MEDIUM DARK SKIN TONE
1F9A3	☺	WOMAN WITH MEDIUM DARK SKIN TONE
1F9A4	☺	POLICE OFFICER WITH MEDIUM DARK SKIN TONE
1F9A5	☺	WOMAN WITH MEDIUM DARK SKIN TONE AND BUNNY EARS
1F9A6	☺	BRIDE WITH MEDIUM DARK SKIN TONE AND VEIL
1F9A7	☺	PERSON WITH MEDIUM DARK SKIN TONE AND BLOND HAIR
1F9A8	☺	OLDER MAN WITH MEDIUM DARK SKIN TONE
1F9A9	☺	OLDER WOMAN WITH MEDIUM DARK SKIN TONE
1F9AA	☺	BABY WITH MEDIUM DARK SKIN TONE
1F9AB	☺	CONSTRUCTION WORKER WITH MEDIUM DARK SKIN TONE
1F9AC	☺	PRINCESS WITH MEDIUM DARK SKIN TONE

Human beings with Fitzpatrick Skin Type VI

1F9B0	☺	BOY WITH DARK SKIN TONE
1F9B1	☺	GIRL WITH DARK SKIN TONE
1F9B2	☺	MAN WITH DARK SKIN TONE
1F9B3	☺	WOMAN WITH DARK SKIN TONE
1F9B4	☺	POLICE OFFICER WITH DARK SKIN TONE
1F9B5	☺	WOMAN WITH DARK SKIN TONE AND BUNNY EARS
1F9B6	☺	BRIDE WITH DARK SKIN TONE AND VEIL
1F9B7	☺	PERSON WITH DARK SKIN TONE AND BLOND HAIR
1F9B8	☺	OLDER MAN WITH DARK SKIN TONE
1F9B9	☺	OLDER WOMAN WITH DARK SKIN TONE
1F9BA	☺	BABY WITH DARK SKIN TONE
1F9BB	☺	CONSTRUCTION WORKER WITH DARK SKIN TONE
1F9BC	☺	PRINCESS WITH DARK SKIN TONE

A. Administrative

1. Title
Proposal to encode Portrait Symbols in the SMP of the UCS
2. Requester's name
Michael Everson
3. Requester type (Member body/Liaison/Individual contribution)
Individual contribution.
4. Submission date
2014-10-01
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.
Proposed name of script
Portrait Symbols.
1b. The proposal is for addition of character(s) to an existing block
No.
1b. Name of the existing block
2. Number of characters in proposal
52
3. Proposed category (see section II, Character Categories)
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 ISO/IEC 10646-1: 2000?
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?
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?
No.
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)?
No.
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.
The characters should have the same properties as other symbols.

C. Technical -- Justification

1. Has this proposal for addition of character(s) been submitted before? If YES, explain.
No.
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.)?
No.

2b. If YES, with whom?

2c. 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?

Everyone.

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

Common.

4b. Reference

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

No.

5b. If YES, where?

6a. After giving due considerations to the principles in Principles and Procedures document (a WG 2 standing document) must the proposed characters be entirely in the BMP?

No.

6b. If YES, is a rationale provided?

6c. If YES, reference

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

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?

No.

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

10c. If YES, reference

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)?

No.

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

11c. If YES, reference

12a. Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?

No.

12b. If YES, reference

13a. Does the proposal contain characters with any special properties such as control function or similar semantics?

No.

13b. If YES, describe in detail (include attachment if necessary)

14a. Does the proposal contain any Ideographic compatibility character(s)?

No.

14b. If YES, is the equivalent corresponding unified ideographic character(s) identified?