

Response to L2/17-193

Date: 2017-Aug-01

From: Peter Edberg, Mark Davis, and Emoji Subcommittee (ESC)

Reference:

[L2/17-082](#) "Possible Emoji Representation for Natural Hair Colors, Features, and Styles", Burge & ESC

[L2/17-193](#) "Alternative Encoding Model for Emoji Hair Variations", Buff

The first document's option 1 (preferred in ESC) proposed encoding 4 characters:

- Person with red hair
- Person with white hair
- Person with curly hair
- Person with bald head

Though these could have gender and skin tone variants, these hair options could not be applied to other emoji people characters. Option 2 in the document proposed using ZWJ sequences with existing characters or newly encoded swatches (which would not be useful on their own).

The Buff document proposed an alternate model adding hairstyle modifiers that function like Fitzpatrick modifiers, but initially limiting the RGI sequences to just those providing the same options as in the first document. This would have the effect of limiting the combinations now, but allowing future expansion to apply to additional people characters if desired.

The ESC has been concerned about limiting the combinations, at least in the short term, which motivated the choice of option 1 in the first document. However, the use of very limited RGI sequences in combination with a productive model could have the same practical effect in the near term, without limiting future possibilities. The ESC does strongly disagree with the modifier mechanism proposed in the Buff document; it would be a significant architectural change. So here are the pros and cons of various possible mechanisms (adding to the discussion in [L2/17-082](#)):

- A. Current option 1 (encode specific people characters)
 - a. New characters, cannot do until 2018
 - b. Hair options only usable for adult with gender variations
- B. ZWJ sequences allowing use of the current option-1 characters as the hairstyle marker, e.g. [RUNNER + zwj + PERSON WITH RED HAIR + zwj + FEMALE SIGN] for red-haired woman runner.
 - a. Uses new characters, cannot do until 2018 (as above).
 - b. Presumably there would be zero or very few of these as RGI initially.
- C. ZWJ sequences allowing modified option-1 characters as the hairstyle marker, e.g. [RUNNER + zwj + RED HAIR + zwj + FEMALE SIGN] for red-haired woman runner.
 - a. Difference from B is that the *image* would be the forehead + hair, forehead being the neutral skintone. Wouldn't be a emoji-modifier base. Could be emoji_components (can decide later).
 - b. Uses new characters, cannot do until 2018 (as above)
 - c. RGI sequences just for MAN, WOMAN, ADULT, initially.
- D. Tag sequences for hair options
 - a. No new characters, could do this in emoji 6.0.
 - b. Does require change in UTS #51 to allow TAGs in ZWJ Sequences.

- c. Initially, the RGI sequences would only apply these to e.g. MAN / WOMAN/ ADULT (and possibly BOY/ GIRL/ CHILD), so the effective number of additions would be similar to current option 1.

Possible Tag sequence additions/changes

Hair: H*◆
* = 1 letter for: bald, white, red, curly,... (other letters reserved)
need list of bases

Horizontal Flip: Th◆
need list of bases

Would also need to change:

ED-15a. emoji zwj element — A more limited element that can be used in an emoji ZWJ sequence, as follows:

```
emoji_zwj_element :=  
  emoji_character  
| emoji_presentation_sequence  
| emoji_modifier_sequence  
| emoji_tag_sequence
```


