Multi-skintoned Families for Unicode 14.0: Exploration and Recommendations

Re: Recommendations for Multi-skintoned Emoji Sequences for Unicode 14.0
From: Sean Stewart on behalf of the Emoji Subcommittee (ESC)
To: Unicode Technical Committee
Date: 2020-03-23

Background

Following through on established ESC priorities pursuant to L2/19-101, the subcommittee explored seven paths forward to extend skintone support to the existing 27 family emoji. In January of 2020, we reviewed L2/19-392, a proposal to encode 7230 additional RGI sequences to enable support for presenting each person present in a family emoji rendering with his/her own skintone.

In the proposal, two paths forward were proposed: encode exhaustive support (i.e. *all skintone permutations with replacements*) and encode partial support (*all skintone permutations without replacements*).

Vendors assessed the impact and feasibility of implementing L2/19-392 within their platforms. The proceeding sections of this document present the outcome of these assessments and conclude with the ESC's recommendation to *leave family emojis as they are with no plans to encode any additional RGI sequences for their skintone support.*

Overview

As it stands, the status quo of family emojis is that there are currently no RGI family emojis with skintones.

Vendors have reviewed L2/19-392 and have assessed both the exhaustive and partial paths forward to bring skintone variation support to family emojis, in addition to entertaining other options.

Seven (7) options were assessed:

1. Exhaustive support for skintone modifiers *(7230 new sequences)*
2. Support a subset of three skintone modifiers *(1092 new sequences)*
3. Support uniform skintones *(135 new sequences)*
4. Full skintone support for one family emoji *(625 new sequences)*
5. Redesign family emojis to hide or change their skintone *(no new sequences)*
6. Deprecate/remove family emojis from the keyboard *(no new sequences)*
7. No skintone support *(no new sequences)*

Each of the sections below presents the paths forward, their assessments, and their resulting conclusions.

Paths Forward, Assessments, and Conclusions

1. Exhaustive Support for All Skintone Modifiers

Supporting all 7230 proposed RGI sequences proves to be challenging for several reasons including but not limited to:

- On-disk growth of assets and their impact to the end-user experience
- UI design enabling the selection of each family members' skintone
- Workload required to bring support can be overwhelming for independent developers

As of Unicode 13.0, there are 3304 total emoji. Adopting an additional 7230 sequences would triple the on-disk footprint of emoji-related assets like databases, fonts, and general data structures. This sudden, non-linear growth becomes even more apparent for vendors having localization requirements for these assets, further compounding the on-disk impact of supporting these additional sequences.

Furthermore, many users will receive these assets either bundled in the form of an operating system update or an over-the-air system asset update. Because many users operate their mobile devices at or near storage capacity, any significant impact to the size of operating system images may prevent users from installing the latest system updates due to a lack of available disk space without being tethered to a host machine.

As for over-the-air system asset delivery, users present in such markets wherein accessing WiFi networks often proves to be challenging *must* download these assets via a cellular connection, thus forcibly expending some of their data quota, potentially incurring charges[1]. Because such *compulsory* system assets are provided by the operating system's vendor (and not *optionally* downloaded from some app marketplace at the end-user's discretion), additional scrutiny must be applied when adopting this option. Finally, users whose devices lack these over-the-air updated assets may encounter a fragmented emoji experience by virtue of seeing decomposed ZWJ sequences, further defeating the intent of this option and of document L2/19-392.

Next, building user interfaces suitable for composing a family emoji with skintones also proves challenging. On mobile platforms, screen real estate is limited. Many emoji palettes are drawn on smaller portions of the already small on-screen keyboard. Designing a popover-style UI to compose these family emojis in a small, compact, and easy-to-use way proves challenging and may lend to a diminished end-user experience. With at max, four people present in a rendering and five skintones to select from, these popover-style UIs become confusing and complex.

Additionally, concerns were expressed for individual developers maintaining Unicode-compliant software that contain emoji-related features (e.g. screen readers, emoji pickers, emoji palettes, custom keyboards, etc.). These individuals, third party developers, or independent maintainers of software can be overwhelmed with the aforementioned challenges more so than established vendors, lending to potentially diminished end-user experiences as well. It is recommended that other options be assessed and considered.

2. Support a Subset of Skintone Modifiers

To lower the total of new sequences to 1092, supporting only three of the five skintones was assessed. Supporting a subset of the skintones will both lower

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[1] Some carriers impose restrictions on which kinds of assets can be downloaded over-the-air on their cellular networks, further complicating this option.

the file size growth of assets while also lessening the challenge of exhaustively supporting 7230 additional sequences on the platforms maintained by independent developers, mentioned in assessment 1.

However, supporting only a subset of skintones can be received in poor taste by end-users. It is unclear how best to select 3 representative skintones from the 5 present in the standard. Even if a consensus on 3 representative skintones be reached, some end-users might interpret the partial skintone support as a bug on their platform. Therefore, based on the inherent exclusive and potentially confusing nature of this partial solution, it is not recommended to move forward with this approach.

3. Support Uniform Skintones

Allaying the concerns about asset size and UI usability expressed in assessment 1, vendors entertained supporting all five skintones applied *uniformly* across all people in all family emoji renderings, reducing the count of new sequences to 130. This means that, for every family emoji, all of the members will forcibly share one skintone.

This solution *does* cover many families who share more-or-less a common skintone, but support for multi-racial families—or more broadly, support for families with different manifestations of skintones—is glaringly absent. Vendors expressed concerns about inadvertent and unintentional messaging on race, skintone, and family composition. Such a partial solution is still inherently—*however* unintentionally—exclusive and thus should be avoided.

Additionally, users may interpret this partial solution as a precursor to exhaustive support for all skintones in the future. This expectation will be challenging to manage for both the ESC and vendors alike. It is for these reasons that this option should not be considered.

4. Full Skintone Support for Only One Family Emoji

Similar to the previous assessments, encoding exhaustive skintone support for *one* representative family emoji was considered. This option will significantly lower the on-disk growth of assets underlined in assessment 1 by restricting the

count of new sequences to 625, but this approach affords *only a single emoji* through which end users can represent their family.

The challenge here is selecting a representative family emoji from the whole set. The options span from a single-parent family with one child to same-sex parents with two children of different genders. No matter which family emoji be chosen, not all real-world families will be representable via any given choice, thus exposing the unintentional exclusive nature of this option. It is for this reason that assessment 4 not be considered.

5. Redesign Family Emojis

In an effort to convey to end users that the family emojis simply do not support skintones, the vendors considered redesigning the family emojis. Two mock-ups were performed: changing the default skintone color to something novel and transforming each person present in a family rendering to a silhouette.

Both options seemed strange and unnatural. Families now consisted of non-standard default skintones that drew unnecessary attention to them in keyboard palettes. Furthermore, the silhouette approach left the renderings being impersonal and overall extremely unnatural. It is therefore recommended that the design of the family emojis remain as-is.

6. Deprecate/Remove Family Emojis from the Keyboard

Vendors also considered removing (deprecating) the family emojis entirely from input methods. While deprecation would "solve" the skintone challenge by simply brushing it under the rug by removing official support for these emojis, this solution seems heavy handed and overall unnecessary.

Although the family emojis are still in use by end users, vendors are free to choose this option. Nevertheless, not having attributable skintones should not be grounds for the deprecation of the family emojis. It is therefore not recommended to deprecate family emojis.

7. No Skintone Support

Vendors also considered the status quo (where the family emojis continue to be supported, albeit without RGI skintone variation sequences).

For the reasons mentioned in the above assessments, this solution *both* has the least asset size impact on outgoing software products, while this solution also avoids unintentional messaging on race, skintones, family composition, and the like, overall lending to better end-user experiences. Additionally, this solution affords independent developers more bandwidth for supporting brand new emojis tied to future Unicode releases.

Conclusion

Ultimately, after considering the assessed options and their outcomes, it is recommended to *leave family emojis as they are with no future plans to encode any additional RGI sequences for their skintone support.*

As a reasonable work-around, users wanting a more detailed way to represent their families with emojis can still do so with individual emoji characters already present in the RGI (e.g. 👱🏼‍♀️ 🧑🏾 👩🏽 👶🏼). Users are able to select whichever skintones—and even hair colors—that best represent their families.

Lastly, vendors can bring independent support for these ZWJ sequences to their own platforms (and some platforms already support a subset of these sequences). The ESC, however, has no plans to add these skintone variation sequences to the RGI.